



Cooper Nuclear Station Subsequent License Renewal (SLR)

THE
**POWER OF
PEOPLE**



**NPPD Board of Directors Meeting
February 2024**

Khalil Dia, Site Vice President



Nebraska Public Power District
Always there when you need us

Integrated Resource Planning Recommendation

- **Start proceeding** with the second relicense renewal process, as well as further **refine the capital costs needed** for the relicense. Also continue to **monitor CNS operating costs** and reevaluate relicensing if projected costs are significantly higher than assumptions in the IRP.
 - IRP Assumptions
 - Used existing Rate Outlook from 2022 to 2027
 - Used escalated values for Rate Outlook beyond 2027
 - Added **\$156.6M** in 2027 for relicensing effort
 - In 2034 and beyond added capital improvements of **~\$15.6M** for ongoing life cycle management; cost is escalated 2% each year through 2052

CNS SLR Feasibility Study Scope

- Scope included detailed assessment of process and CNS readiness to perform Subsequent License Renewal (SLR)
 - Elements of SLR
 - Scoping and screening
 - Aging Management Reviews
 - **Operating experience**
 - Nuclear Regulatory Commission (NRC) review and approval
 - Subsequent license renewal application (SLRA)
 - Implementation/Inspections
 - **Environmental Impact**
 - Reviewed **previous CNS license renewal** documentation
 - Reviewed **industry experience** with subsequent license renewal
 - Performed **detailed risk review**
 - Performed **cost & schedule** estimate

CNS SLR Feasibility Study Results

- Results
 - **No issues that would prevent successful NRC approval**
 - No required commitments for upgrades or repairs were identified
 - No major issues anticipated during SLRA preparation and NRC review
 - No major environmental issues identified that would preclude SLR
 - No high-risk factors were identified

License Extension Cost Estimate

- Cost Estimate to develop, submit, approve and implement:

Contract Support to develop submittal	\$8.0M
CNS Project Team Support (5 to 7 People) plus SME reviews	\$4.0M
Specialty Vendor (GE, SIA, etc.)	\$7.0M
Environmental & Severe accident methodology assessment	\$1.5M
Legal & Miscellaneous fees (travel, communications, etc.)	\$1.5M
NRC Review Fees	\$8.0M
Risk Contingencies (10%)	\$3.0M
<u>Implementation inspections</u>	<u>\$16M</u>
Sub-Total	\$49M
IDC/A&G	\$7.4M
Project Total	\$56.4M

Plant Reliability Projects to Support Additional 20-year Life Extension

- The following projects are to improve plant reliability (**total cost \$58.4M**):
 - Replacement of the low pressure (#1) **feedwater heaters** (original Equipment) - \$11.2M
 - Replacement/**retube of condenser** (original equipment) - \$35.7M
 - Replacement of **REC/RHR Heat Exchangers** (original equipment) - \$10M
 - Upgrade of **Cathodic Protection** (maintains underground assets) - \$1.5M
- Total Cost including plant reliability improvement is **\$114.8 M**
 - Bounded by IRP assumptions of **\$156.6M**

Timeline for License Extension Approval

- Application development requires up to **20 months**
 - Includes long lead time analysis from specialty vendors requiring >12 months
 - Timeframe could increase as more plants apply for SLR using same specialty vendor
- NRC target time for review and approval is **22 months**
 - Timeframe could increase as more sites apply for SLR increasing NRC workload
- Based on above recommendation for NRC **submittal is 2026**
 - Maximizes number of outages to implement required inspections
 - Minimizes the potential for new guidance to expand the scope

Recommendation

Adopt resolution to allow CNS management to proceed with the second license extension project starting in 2024 for estimated cost of **\$56,400,000.00**



THE POWER OF PEOPLE



Questions

Stay connected with us.



Nebraska Public Power District

Always there when you need us