CURE COMMENTS TO EQB ON DRAFT SCOPE FOR MONTICELLO:
Minnesota Statute: 116C.705 Findings

The legislature finds that the disposal and transportation of high level radioactive waste is of vital concern to the health, safety, and welfare of the people of Minnesota. To ensure the health, safety, and welfareof the people, and to protect the air, land, water, and other natural resources in the state from pollution, impairment, or destruction, it is necessary for the state to regulate and control, under the laws of the United States, the exploration for high level radioactive waste disposal within the state of Minnesota. It is the intent of the legislature to exercise all legal authority for the purpose of regulating the disposal and transporation of high level radioactive waste.

HIST: 1984 c 453 s 1

Dear Chair Schroeder:

Context: In assembling these comments, CURE has drawn heavily upon our own experience with reviewing an Xcel application for an ISFSI in Florence Township in 1995-1997. The notice items we have recommended, including the emergency plan, are the information that we would want to have -- as local governments, citizens, and communities. The uncertainties that we scoped in 1995, are more accute than ever. The concern we had for the river eco-system, its communities, and the special dispersion patterns of river valleys -- have not gone away. They have just moved upstream.

The cumulative effects of extended nuclear operations and long-term, potentially permanent, storage of nuclear waste on the banks of what Mark Twain called "the lifeblood of the nation" -- could have enormous economic, health, safety and environmental implications. This will depend upon a number of factors and scenarios that demand our most rigorous attention.
And the decisions will be made, in light of our ability to see further into the future -- than any of us can imagine. These issues have been on our minds for over 10 years. We are glad, finally, to share them.

Summary of Conclusions & Recommendations

A summary of CURE's conclusions, expectations and recommendations (in 17 pp. attachment) follow. The tool for review we are trying to 'scope' here, is related to a series of exercises that we did in conjunction with EQB review of the Florence Township Xcel application for an offsite ISFSI in 1995. The regulatory review subcommittee of the EQB Citizens' Site Advisory Task Force, designed the concept. This became part of the report recommendation to the EQB Board. The structural idea from this timeline and matrix came out of conversations with the public advisor about the tools that MNDOT used to scope complex sets of factors and alternatives. This kind of exercise has long been needed.

In 2003 when the legislature was considering extending storage at PI, we drafted a timeline, using Xcel's Yucca Mountain cask queue schedule. I have attached this as well. It only goes to 2100. The timeline for this review would have to go to at least 2210. **Since there is no certain scenario for waste from relicensed reactors, we have proposed elements of a matrix** to define a range of factors that, interacting, would **scope these factors in the context of a set of**

chosen scenarios. The requirement from PUC for analysis of a 200 year storage scenario is beyond anything evaluated by NRC. This changes the storage term assumptions of Xcel's application - from temporary to "long term". **What is now required is establishment of scenarios and factors within 4, 50 year quarters**This kind of analysis for an ISFSI has not been conducted by NRC (see notes below), but their cooperation would be very useful for the exercise.

The Contingency Assessment Timeline we are suggesting, assumes a set of factors and scenarios, along a 200 year timeline: **2060 - 2110 - 2160 - and 2210**. 200 years, is 2/3 of the time that Yucca Mountain is expected to stay open , if it ever opens. This accomodates possible future storage - while preparing to adequately contain and monitor the waste, through at least one and likely two cycles of facility and cask replacement. This scope and its requirements will be particularly useful and relevant to the PUC economic review. We note in the attachment, the importance of assessing what wastes in addition to the fuel rods may need - over time - to be accomodated at reactor site; including old casks, LLW, GTCC, and decommissioning wastes, as federal storage sites reach capacity.

CURE COMMENTS for EIS SCOPE
on potential impacts of long-term dry cask
storage, and continued operations
(relicensing)
at the Monticello nuclear plant

"Whats the difference?" We often hear the claim that we will need an ISFSI anyway for decommissioning. So "whats the difference" if we put a couple dozen more casks on it!? The difference is that the federal government has NO plan for waste from relicensed reactors. The GEIS for relicensing simply notes that there should be room on the pads for the waste.
A few reality checks:

- Yucca Mountain capacity will be filled by @2040.
- Last waste shipments from original licensure - if YM opens by @2015 - will leave the state no earlier than 2041.
- Original cask and facility licenses will have expired.
- Non-fuel rod waste from continued operations, and military waste multiplying beyond capacity at 5 federal sites. This
  waste may also remain at reactor sites.
- Ωaste generated under license renewal will be WITHOUT a central storage plan, unless Congressional action, additional study, permits AND funding - allow drilling in YM for additional waste from relicensed reactors.

This exercise is an attempt to scope the parameters of a 200 year timeline, with reference to the following requirements:
a. PUC order for supplement of the application, in Attachment A (PUC briefing pprs., 3-24-05);
b. Rules 7855.0600 - 0670, particularly .0630, which outlines "Environmental Information Required":
"The information in parts 7855.0640 to 7855.0670", to be developed.
c. MN Statute 116D.01-06 and MN Rules for Environmental Impact Statement, 4410. Particularly analysis required under 4410.2500.

c. Statutory additions in 2003, requiring review of impacts of relicensing be part of the scope of review; requiring legislative review of PUC decision; and requiring application of water standard in 116C.76. I apologize that I did not realize that the statute specified 1 & 3 & not 2. Nevertheless it seems necessary to establish a baseline groundwater test.

Environmental Scope for a [200 year] Contingency Assessment Timeline

See attachment sections:
Matrix Factors 4.0 - 4.9, 4.11 & 4.12 (see also 6.0)
Matrix Scenarios 4.10, plus attached timeline
Incident scenarios: sec. 10.0
Cumulative Effects sec. 6.0
8.0 Aging Effects
Alternatives: sec. 9.0

Conclusion: The conclusion of our analysis of federal jurisdictions and scoping assumptions for environmental and permit review of storage - under sections 3.0 and 4.12 of our attachment - is that EQB must apply all requirements of Minnesota rules, 7855.0600 - 0670 and 4410. Under no circumstances, should Minnesota adopt NRC assumptions, GEIS or EIS conclusions for at reactor site storage. [See #12 under recommendations, below for details].

NRC has never done an environmental impact statement for long term at reactor site storage. Nor has the federal government made any plan or provision for waste from relicensed reactors. The "No Action" alternative to Yucca Mountain would simply leave waste indefinately at reactor site, without any specific provision for institutional oversight, funding, maintenance or other waste management assurances. This is a fundamental failure of the regulatory system. It would be imprudent and irresponsible to accept NRC assumptions, and fail to apply the requirements of Minnesota law and statute to environmental review of the impacts of long term/indefinate storage and continued operations at Monticello - as MN law, requires. NRC's help in assembling this data however, will be invaluable and - hopefully - mutually informing.

Summary Recommendations

1. The final scoping document should specify:
a) per: 4410.2100 Subpart 6. G - any studies that <u>may</u> be necessary to gather, analyze and apply the requirements of 7855.0640-0670, and particularly .0650 - to the environmental review (see 7 & 8). Please include study of historical MS river course changes, projected flow, volume and course changes - with and without current river control/dam system. Please add Corps of Engineers to list of agency advisors for information development. Please include study and basis for projection of climate change factors that may affect the river and the site over @200 year, long term storage scenario.
b) per: 4410.2500, how EQB will scope and address the effects of "Incomplete or unavailable information", per 4410.2500, b.
c) Please address how EQB (and NRC) will scope <u>cumulative impacts</u>, assuming long *term/indefinate* at reactor site storage, rather than Xcel's original assumption of temporary storage, or NRC's assumption of "interim".*This should include cumulative impacts of waste and

continued operations, and of pending application for relicensing at Prairie Island, and expansion of that facility. Also of accomodation of additional waste streams, per our sec. 3.2.
c) per: 4410.2200 and 4410.7040, what range of state agency (and local government) cooperation EQB will request, to produce a complete and interdisciplinary study of the long term and cumulative effects of indefinate at reactor site storage, and continued operations. Please provide contact information for the public for these agencies and local government officials (Met Council or Minneapolis environmental depts?)
d) Please specify what tests or data will be collected to establish baseline conditions, including but not limited to groundwater testing. This is very important to public confidence, and monitoring - as noted in public meeting. Please specify which agencies, or local governments may be involved.
e) Given substantial past, present, and pending investments in the upper Ms river watershed, please specify what ongoing testing programs establish baseline date. Please note which agencies and/or local governments will assess and recommend testing, monitoring or other evaluation programs going forward, for at least the first quarter of the 200 year scope.
f) Please include information about how EQB and NRC will facilitate coordination of timelines of state and federal review so citizens can follow the process. Please provide links and information on the website.

2. **Scope selected timeline scenarios** in **4 quarters** of 50 years each.
3. Apply factors consistently, as recommended in the outline and refined by EQB and member agencies.
4. Consider cumulative environmental and socio-economic effects a central rather than a peripheral item, now that the term of storage assumption under review has been changed from temporary to long term/indefinate storage.
5. Consider cumulative effects of multiple program failures, over time, in conjunction with management, maintenance, monitoring and funding concerns.
6. Seek legal opinion from the AG's office on applicability of Federal preemptions and authorities.
7. Recommend promulgation of conditions, of standards and/or criteria, based upon review of potential long term impacts of indefinate at reactor storage.
8. Scope recommendations for conditions related to state oversight of long term, at reactor site storage, as part of the product of environmental review, with input from all relevant state agencies per 4410.2200, and requirements of 116D
9. Please see procedural recommendations* (in footnote, here) in Attachment A. This section includes recommendation to hold a **technical conference to scope alternatives.**
10. Rules 4410.2500, "Missing and Incomplete Information". Development of this section of the EIS should be used to address the "uncertainty" factor, which is particularly important for analysis of economic and environmental implications. Committment to continued operations and storage of wastes that have no assurance of permanent centralized storage outside of Minnesota -- may well be an irreversible committment not only of economic resources, but of risks to Minnesota's natural resources, populations and future economic viability. Scoping the alternatives then is a critical exercise; and will provide parameters for assessing, in addition, lost opportunity costs - of continued operations. Please attach the modeling information I sent previously to the official record of my comments.

11. Alternatives development: Please clarify if EQB, as originally presented, will develop an independent, but coordinated, set of DG scenarios. We assume that there will be coordination and cooperation with DOC, but we are concerned that the field of DG options not be constrained

in a way that restricts development of that alternative. I have been advised that it is necessary to have a field of at least 3 scenarios to adequately develop this alternative in the record, and ensure a viable set of alternatives decision points for the Commission. Given recent legislative initiatives, it may be optimal to include exploration of combined hydrogen-wind-gas-biofuel/mass alternatives. We have suggested the possibility of PUC or Xcel putting out an RFP for these alternatives early in the process, to facilitate this. Please also advise if there is any development on question of models, per: comments and resources sent previously.

12. Please see re-notification recommendations, per DOC recommendation, at B. 2.5. We realize that this would be an unwelcome exercise, but there have been a number of developments:
a) consideration of a 5 mile scope under 7855.0640, per DOC -
b) accomodation of analysis of storage term assumption for "long term", rather than temporary storage, and
c) coordination of NRC & EQB review, insofar as that may be possible without a joint proceeding. A joint proceeding is not desirable if it requires using the same assumptions. If, instead, it clarifies and elaborates the scenarios that PUC has requested be developed, to 200 years - a joint exercise could be useful.

13. Federal environmental review assumptions do not apply to the state review-- for the following reasons.
(These are elaborated under 3.0, and in 4.12):
1. NRC does not consider impacts beyond the license period of the facility - for plant or ISFSI.
2. All review assumes normal operating conditions; accident scenarios are not evaluated.
3. The assumption of no impacts for 30 years beyond closure is part of the "confidence decision" (see 3.0), not based upon full regulatory review. See POSTSCRIPT I below Attachment outline.
4. NRC review assumes that waste will be removed (within the 30 year time frame noted above).
5. The No-Action alternative for Yucca Mountain, would leave waste on site. The DEIS & FEIS review 2 scenarios*:
a) Continuous oversight for 1,000 years - and
b) No oversight beyond 100 years.
NB: The environmental review did NOT evaluate at reactor site storage, despite the fact that it assumed indefinate at reactor site storage at 72 locations (many on major water bodies). The environmental assessment used an entirely different scenario. It assumed 5 regional sites.
6. NRC/DOE has never examined a long term storage scenario for at reactor site storage.
7. "Confidence", even in Yucca Mountain is waning; and the "confidence decision" upon which NRC regulatory action, and environmental review determination of "no significant effects" depends is being challenged by Nevada.

NRC/EQB cooperation? Plant and storage permits are not linked in NRC regulation or review. NRC has never had an instance simultaneous ISFSI and relicensing application. But they can be very helpful in filling out the EQB EIS scenarios. See POSTSCRIPT below Attachment Outline.

Assuming Federal Authority?: In assembling the matrix factors and scenarios, we will assume that as a practical matter, NRC will exempt state authority over health and safety and the PUC decision will be an ECONOMIC decision. But, as EQB is well aware, the economic and environmental questions are inseparable. The environmental scope will shape the economic review and considerations - as well as the alternatives. It is easily arguable that the Monticello

capacity is not needed for Minnesota load, going forward. So the economic question becomes a particularly challenging one. Should we put our most valuable, some would argue, water resource - with all its attendant natural resource values - at risk to provide capacity primarily for regional and/or market electricity export? And how should we evaluate the alternatives? By what assumptions, using what models, and what variables?

14. Working beyond assumptions of Federal Preemption of Health and Safety? *The assumptions of Federal/NRC environmental review on matters of health and safety cannot be applied apply to the review now before PUC. NRC's assumption of "interim" storage, depends upon assurance of centralized federal storage, which has not been provided by either Congressional or agency actions - for waste from relicensed reactors. For the same reasons (at 3.0 & 4.12), the GEIS and other environmental review - are inadequate frameworks in which to review -- which NRC has never done -- the potential impacts of long term at reactor site storage(see sec. 3.0).

This raises the question of whether or not the Environmental Scope should avoid health and safety questions. These are the most fundamental responsibilities of state and local governments. What, if any, dimension of these questions should be scoped? What would most impact the economic decision before PUC? We will not likely overturn federal preemption, although we tried in the 1970's. But it may be time to revisit some of the questions that arose then. This comment takes a middle path. *Under 6.0, cumulative impacts, we've recommended that the EIS scope anticipate, at least, potential impacts to water - groundwater and the Ms. watershed/supply - under the timeline scenarios.*

15. Conditions on Certificate of Need: An EIS/Contingency Assessment Timeline should be used to inform possible conditions for Certificate of Need including but not limited to standards, terms, oversights etc. The only way to ensure continuity of funding, management, maintenance, and monitoring with this many uncertainties, is to PLAN for it; create strict TERMS for any transfers of ownership. Include FUNDING assurances for maintenance, monitoring and management for at least 200 (better 300) years. And STANDARDS, to protect vital resources that would apply in as many contingencies as possible.

Putting it into perspective: Of course, some of us...who are 'aging reactors' ourselves, would like to see these questions adeqately addressed in our lifetimes. It is one thing to leave a legacy of nuclear waste, it is quite another to leave it without assessing and planning for its future care, maintenance and monitoring - at least into the foreseeable future. 200 years, after all, is less than .01% of the half-life of the longest lived radioactive elements, which require isolation from the biosphere, according to the National Academy of Science standards for at least 25,000 years.

Thank you for your consideration of our comments:
Kristen Eide-Tollefson, for CURE - 612-331-1430 - P.O. Box 130, Frontenac, MN 55026

***FAILURE OF FEDERAL PROGRAM**? If the No-Action alternative is triggered by failure of the federal program, these scenarios are considered the 3 most likely:
1) **Permanent or indefinate on site storage at 72 reactor sites**, many on key bodies of water - & water supplies. It is likely DOE would take title to waste on site or site and waste - as is permitted by their contracts with the utilities - at utility discretion. This gets utilities off the hook for costs. But DOE's track record on management is not great. No state oversight

2) **Regionalizaton of storage sites**, by DOE or *Private Contractor*. This presumes that DOE or Private Contractor takes title to waste at reactor sites. Funding sources, siting criteria or standards are unknown. Any site may have waste removed OR added to its site, without any form of state review.
3) **Second Site Search may be reactivated.** At least several of Minnesota's @8 candidate sites will likely still be in the running.

Before the end of the first quarter of the 200 year period. *Under several scenarios, we could have DOE sites, no state control or statutory protections at the exact point in time that maintenance and monitoring become critical.* Facility deterioration begins @2060, accute by 2090. What do we know now, about the likelihood of continuous federal oversight for 200 years? What about site and cask abandonment?

****OUTLINE FOR ATTACHMENT A**
(17 page attachment can be sent by e-mail, upon request either to EQB or CURE)

PROCEDURAL ITEMS:
***A. The procedural time-line should allow for additional comments on EIS scope:**
It is difficult to provide comments for the draft EIS scope, when comments are due befoe the supplement is ready and the parameters of federal review are clarified, and the federal scoping meeting is held. We recommend the following considerations to PUC, ALJ and parties:
1) No substantive decisions on the scope should be made in the May 9th ALJ meeting.
This is too early to determine parameters. Parties could discuss item #5?
2) EQB/PUC should allow time, after application supplement and NRC EIS scoping meeting to get final comments in - and a Final Draft Scope in place.
3)) The Department recommended that PUC allow comments on the Final Draft Scope to ensure that information development is aligned on the front end. We agree
4) Work on the EIS can proceed before this final scoping opportunity. It would be helpful to frame the scenarios and factors for evaluation.
5) As recommended in 9.0. **PUC should consider holding a technical conference on alternatives development and analysis.** This could save a great deal of time in hearings, information development, evironmental review - in all aspects of the CoN proceeding. Alternatively, EQB could do this, if PUC preferred.

B. THREE CHANGES IN SCOPE (sec. 1, 2, & 4)- per: PUC decision on Completeness

1. TERM OF STORAGE SCENARIOS - Long term scenario (200) years to be evaluated. See section 4

2. SCOPE - New Area of Impact to be evaluated - 5 miles. See sections 2.0, and 6.0.
(Application examines at reactor site, or within 1 mile)
2.1 7855.0604
2.2 Locally designated significant resources
2.3 Map of population within 50 miles
2.4 Additional comments needed
2.5. Re-Notice recommendation

3. FEDERAL JURISDICTION. Change in term of storage assumption puts this review beyond any review conducted by NRC. Therefore NRC conclusions, and assumptions cannot be adopted by EQB or PUC for the purposes of this review. See section 3.0, 4.12, and 6.0.
3.1 Federal Scoping Assumptions
3.1.1 NRC GEIS/EIS assumptions for term of operating license only
3.1.2 NRC review asumes normal operating conditions: no accident scenarios
3.1.3 NRC assumes no impacts for 30 years after license termination as part of "confidence decision"
3.1.4 Waste Confidence decision (1984, 1990, 1999) is presumed to cover all contingencies: See Waste Confidence Contentions Docket 51-009 Before the Atomic Safety and Licensing Board, May 3, 2004 (link: www.nirs.org/reactorwatch/sitepermits/ggesp50304wasteconfidencecontention.htm)

3.1.5 Should we assume federal preemption of health & safety - particularly waters?
3.2 Types (and amounts) of waste stored on site likely to multiply; will decommissioning wastes need to remain on site if there is not adequate federal storage available?

4. TERM OF STORAGE SCENARIO

4.1. Factors to be scoped along a timeline
4.1.1 Cask license term and renewal; Cask materials performance; Facilities needed for handling?
4.1.2. Additional wastes at Prairie Island
4.1.3 Addition of waste from othe reactors?
4.2 Scoping "Incomplete and Missing Information" required by EIS rules
4.3 **Uncertainty** - NRC GEIS for License renewal (NUREG 1437, vol 1) concludes: "For the purposes of assessing radiological impacts the Commission has concluded that impacts are of small significance IF doses and releases do not exceed permissible levels in the Commission's regulation. *Accidental releasesor noncompliance with the standards could conceivably result in releases that would cause moderate or large radiological impactas*. [BUT] Such conditions are beyond the scope of regulations controlling normal operations and providing an adequate level of protection". Therefore, they are outside the scope of NRC consideration in environmental review. This is not the 'defense in depth' approach that NRC advocates. It is perhaps more accurately described as 'denial in depth'.
4.4 Factors: Costs, funding assurance for 200 years
4.4.1 Insurance (with and without Price-Anderson) for 200 years
4.5 Factors: Institutional Controls
4.5.1 Scoping Monitoring Plan and assurance provisions under management conditions 4.5..2.1 - 4.5.2.6:
4.5.1.1 Scope of monitoring variables must be established
4.5.1.2 Existing monitoring, adequacy of for site, air and water
4.5.1.3 Additional monitoring and scope for site, air and water; adjacent and downriver municipalitie
4.5.2 Management/oversight variables under the following scenarios:
4.5.2.1 Continued combined NRC and State Oversight
4.5.2.2 Continued NRC oversight only.4.5.2.3 DOE oversight 4.5.2.4 Regionalization of site and waste
4.5.2.4 - A. waste removed from former plant sites
4.5.2.4 - B.wastes consolidated at former plant site/s on Ms. River.
4.5.2.4. State oversight only (default). .
4.5.2.5 Local Government oversight (default)
4.5.2.6 Privatization of site and waste; oversight by holding companies, or decommissioning agents only.
4.5.4. Maintenance
4.5.4.1. Factor to be calculated along timeline, with 4.1.1 factors
4.5.4.2. To be considered in Management/Ownership scenarios
4.5.4.3 See 4.4 & 4.5 funding and insurance - assurance needed under EACH scenario.
4.5.5 Ownership structure variables in relationship to accountability
4.5.6 Legal implications of the oversight, environmental, health and safety, and funding contingencies
4.6 Factors - Decommissioning Scenarios
4.6.1. DECON (?)
4.6.2 SAFESTOR
4.6.3 ENTOMB
4.6.4 Beyond EMTOMB assumptions
4.6.1 Ownership,/Management variables and decommissioning fund control.
NOTE: Decommissioning funds DO NOT cover funding for waste left on site at ISFSI.
4.6.2. Waste left from Decommissioning at ISFSI.
4.7 Factors - Total amounts of waste to be emplaced in ISFSI
4.8.1 Fuel Rods
4.8.2 LLWaste
4.8.3 GTCC waste
4.8 Factors - Waste transfer facilities4.8.1 hot box or
4.8.2 pool
4.8.3. Assurance of funding to cover additional casks and necessary equipment out to 200 years
4.8 Compatibility with Yucca Mountain or other near or distant storage option -

4.8.1 Cost and accountability
4.8.2 Condition of fuel
4.9 Factors - Transportation - Uncertainties
4.10 STORAGE TERM SCENARIOS- Timeline and contingency analysis:

- Unlike NRC, Minnesota -- and the EIS for Monticello -- cannot assume a federal repository
- No connection for NRC between the licensing or review of license renewal and ISFSI permits
- They have never simultaneously reviewed an ISFSI and a license renewal.
- NRC regulations limit cask and ISFSI permits to a total of @ 40 years.
- DOE No-Action scenarios (DEIS, 9) recommend complete replacement of dry cask facilities every @50 years
- Studies have not projected cask performance, or cask & fuel interactions, beyond 20 and 100 years.

4.10.1 Current waste scenarios:
4.10.1.1. Assuming Yucca Mountain - on time:
4.10.1.2. Assuming centralized above ground storage at YM. Timeline unknown, must be projected
4.10.2 DOE No-Action Scenarios**
4.10.2.1: DOE No-Action Alternative #1 (Summary.5.2.1) - Long term at reactor site storage with effective institutional controls for at least 10,000 years.
4.10.2.2: DOE No-Action Alternative #2 (S.5.2.2)- Long term at reactor site storage with no institutional controls beyond 100 years.
4.10.2.3 Sabotage/Intrusion: the intrustion/sabotage scope is kept as a separate assumption (S.5.2.3).
4.10. 3 Scenario Assumptions, along 200 year timeline - to be scoped by EQB or EQB & NRC. What will be the assumptions for:

- Institutional Controls
- Environmental Protections and mitigations
- Management
- Monitoring
- Oversight
- Costs of maintaining same
- Emergency planning
- Transportation assumptions and potential for interference with plans for removing waste from the site, along the timeline and under several scenarios.

4.11 Compatibility with NRC assumptions for EIS?
4.12: NRC Preemption?
4.10.4.1 Will EQB maintain the assumption of NRC preemption that is currently in its scope?
4.10.4.2 Will PUC's evaluation of potential costs and benefits - assume NRC preemption
4.10.4.3 Will PUC allow the "take title" provision to be activated by the utility?
This would create a federal waste storage site in Minnesota
4.10.4.4 What is DOE's accountability to NRC standards?
4.10.4.3 What would the State's Attorney General advise?
4.11 **Compatibility with NRC assumptions for EIS?** -
4.12: **NRC Preemption?** When storage assumptions are NOT based upon assuming federal centralized storage on present timelines, assuming NRC preemption of health and safety factors may not be (we would claim, is not) a prudent assumption.
4.10.4.1 Will EQB maintain the assumption of NRC preemption that is currently in its scope?
4.10.4.2 Will PUC's evaluation of potential costs and benefits - assume NRC preemption
4.10.4.3 Will PUC allow the "take title" provision to be activated by the utility? This would create federal site
4.10.4.4 What is DOE's accountability to NRC standards?
4.10.4.3 What would the State's Attorney General advise?

5. RELEVANT PERMITS AND PLANS
5.1. Watershed Districts
5.2 City Water plans/emergency plans

5.3 Other?

6.0 CUMULATIVE EFFECTS (Scoping EAW, item) and Scenarios. Joint Federal, State scoping item**?**
Under the assumption of long term, rather than temporary storage.
6.1 With Monticello relicensing and ISFSI :
6.1.1 Cumulative Emissions and discharge - section needs to be filled out for factors
6.1.2. With Prairie Island relicensing and expansion of ISFSI capacity
6.1.3 With extended on site storage - long term or indefinate - after decommissioning.
6.1.3.1 See: 4.0 for scenarios under which to scope cumulative effects
The 3 key factors under these scenarios are outlined in sec. 4.0Consider the 3 key factors:

- With Xcel ownership/NMC management
- With transfer of ownership to out of state company - state authority?
- With transfer of ownership to DOE (not subject to NRC OR state oversight)
- No state authority for oversight.
- Facility deterioration begins @2060, accute by 2090.
- Abandonment of site by 2080?
- Major agency reorganization at Federal Level?

6.2.1 Water supply: Evaluate number of people and jurisdictions,affected by contamination of water supply due to a) natural attrition of waste containment, b) sabotage. Calculate rate of air and water flow, and effects of release under 3 scenarios, and contingencies.
6.2.2 Global Climate Change: General effects of global climate change. These effects may include, but are not limited to change in volume and course of the Ms.River
6.2.3 Multiple roles of water:
6.2.3.1. Water is the main factor in degradation of materials
6.2.2.2. Water is the main path of radionuclide dispersal in the event of releases.
6.2.2.3. Water (quality) is the natural resource that is most critical to the health, safety and well being of
a) biological,
b) economic, and
c) social systems.
6.2.4 Water permits are required to continue operation of plant. States govern water supply appropriations.
6.3. Tridium impacts to river, groundwater and water supplies; pipes under plant, vulnerable to leaking.
6.4 See: 3.6 - Cumulative effects of additional waste-types to be accomodated.
6.5 Cumulative Impacts of multiple program failures. Cooperative scope with the Federal EIS.
6.6 Cumulative Effects of Uncertainties; missing and incomplete information.
6.7 Cumulative Impacts to natural and socio-economic resources which would be identified under 7588.0640

7. INPUT FROM FOLLOWING INTERESTS? RE: RESOURCES in 7855.0640 I - L by:
7.1 MN Department of Natural Resources
7.2 Minnesota Department of Health, under scenarios
7.3 Pollution Control Agency, under scenarios
7.4 Department of Agriculture, under scenarios
7.5 Trade and Economic Development; Tourist interests and associations
7.6 BOWSR Board and adjacent local boards within 5 and 10 mile (emergency plan) radius/s
7.6 National Park Service
7.7 Mississippi Corrider Commission
7.8 Army Corps of Engineers
7.9 City and local governments
7.10 Audubon and Flyway Associations
7.11 Other identified interests
7.12 Interested members of the public

8.0 GALL - Generic Aging Lessons Learned; Emergency Planning and other contingencies. If the EIS does NOT consider actual accident or release scenarios, other than those scoped along the timeline for

storage contingencies, then it will be necessary to include the impacts of NOT assessing these risks. *See PUC Supplement, Attachment A - 6.*
8.1 Effects upon emergency planning. 8.2 Necessary monitoring programs. See above.
8.3 Effects upon financial assurance, adequacy of monitoring, emergency programs for long term storage.
8.4 Effects upon adequacy of insurance for long term storage scenario.
8.3.1 With Price-Anderson
8.3.2 Without Price-Anderson
8.5 Other

9.0 ALTERNATIVES ANALYSIS
9.1. Federal Alternatives analysis for GEIS for license renewal assumes coal
9.2 EIS alternatives development must include, at least, direction for in PUC Supplement,
9.3 Meeting to discuss alternatives. PUC/DOC/EQB should hold a separate scoping meeting
9.4 Model/s other than (or in addition to?) Xcel's strategist should be used to analyze the alternatives.
9.5 Should PUC/Xcel consider an RFP for replacement power for Monticello - either in this proceeding, or under its IRP? This would enable the commission to better determine what credible alternatives might be available in the timeline given.

10.0 SABOTAGE/TERRORISM - recent reports on inadequacy of security at nuclear power plants.
10.1 Releases from terrorist incident with at least 3 scenarios should be evaluated for all impacts - Federal EIS could help with this, under the following 3 assumptions:.
10.1.1 For plant during operating life
10.1.2. For ISFSI and pool "
10.1.3 For ISFSI and pool, after decommissioning.
10.2 Releases from terrorist incident for cask operations & /or transportation scenarios within MN borders.

POSTSCRIPT

I. Advocacy of on site storage.
Possibly the most notable documentation related to the Yucca Mountain No-Action Alternative, is the number of commenters who are ADVOCATING for keeping the waste at reactor sites. This one summarizes the fundamental issue, underlying the Environmental Review of the Monticello ISFSI: "This draft EIS does not offer a reasonable alternative [to Yucca Mountain]".

"Despite the Nuclear Waste Policy Act's exempting repository siting considerations from the heart of a true NEPA analysis - the need for a repository and any alternatives to the Yucca Mountain site - this Draft Environmental Impact Statement and the proposed action are still seriously flawed in a number of ways.First, the No Action alternative, which is the only alternative to a Yucca Mountain repository development decision, is defined in such a way as to make it not only unreasonable and unsafe, but also unlawful. The National Environmental Policy Act requires that alternatives be reasonable.

This Draft EIS considers No Action to be either leaving irradiated nuclear fuel at the reactors, with no controls, for ten thousand years, or leaving it at the reactors with controls for 100 years and then with no controls for another 9,900 years. Neither case is reasonable, nor would it be permitted under the reactors' licenses that require full control of nuclear materials at the reactor site. The No Action alternative is prescribed in the Nuclear Waste Policy Act - if the Yucca Mountain site is unsuitable, the Secretary of Energy is to so inform Congress, make recommendations for future action, and wait for further direction, which assuredly would not be leaving the irradiated nuclear fuel on site with little or no control for 10,000 years. For those of us who believe, on technical grounds, that the Yucca Mountain site is unsuitable for development as a repository, this Draft EIS does not offer a reasonable alternative."

II. Environmental Impacts Fuel Cycle and Transportation: Waste Confidence Rule

The NRC's Waste Confidence Rule is codified at 10 CFR 51.23. Section 51.23(a) states:

> The Commission has made a generic determination that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least thirty years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations. Further, the Commission believes there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within thirty years beyond the licensed life for operation of any reactor to dispose of commercial high-level waste and spent fuel originating in such reactor and generated up to that time.

The result of the generic determination in Section 51.23(a) is that there is no need to consider the environmental impacts of the onsite storage of spent fuel (in environmental reports, environmental impact statements, environmental assessments, or other analyses), for the period following the anticipated expiration of the license, in reactor and independent spent fuel storage facility licensing proceedings.

Section 51.23(c) requires that environmental impacts during the term of the reactor operating license or a license for an independent spent fuel storage installation (ISFSI) be considered in a licensing proceeding. However, the underlying assumptions remain: (1) Safe disposal of radioactive waste and spent fuel in a mined geologic repository is technically feasible; (2) one or more geologic repositories will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within 30 years beyond expiration of any reactor license to dispose of high level waste (HLW) and SNF; (3) HLW and SNF will be managed safely until sufficient repository capacity is available to assure the safe disposal of all high-level waste and spent fuel; (4) if necessary, the SNF can be stored safely and without significant environmental impacts for at least 30 years beyond the reactor license expiration at either an onsite or offsite storage facility; and (5) safe independent onsite or offsite storage capacity will be available if needed.

ATTACHMENT to comments:

In the matter of Xcel's application for Dry Cask Storage for Liscense Renewal at Monticello
Comments on: EIS DRAFT SCOPE

R-CURE
[River] Communities United for Responsible Energy

4-15/25-05

Context: In assembling these comments, CURE has drawn heavily upon our own experience with reviewing an Xcel application for an ISFSI in Florence Township in 1995-1997. The notice items we have recommended, including the emergency plan, are the information that we would want to have -- as local governments, citizens, and communities. The uncertainties that we scoped in 1995, are more accute than ever. The concern we had for the river eco-system, its communities, and the special dispersion patterns of river valleys -- have not gone away. They have just moved upstream.

The cumulative effects of extended nuclear operations and long-term, potentially permanent, storage of nuclear waste on the banks of what Mark Twain called "the lifeblood of the nation" -- could have enormous economic, health, safety and environmental implications. This will depend upon a number of factors and scenarios that demand our most rigorous attention.
And the decisions will be made, in light of our ability to see further into the future -- than any of us can imagine. These issues have been on our minds for over 10 years. We are glad, finally, to share them.
Thank you for your consideration of our comments.

Kristen Eide-Tollefson, for R-CURE
612-331-1430/651-34-5488

SCOPING ISSUES:

A. The procedural time-line should allow for additional comments on EIS scope:
It is difficult to provide comments for the draft EIS scope, when comments are due befoe the supplement is ready and the parameters of federal review are clarified, and the federal scoping meeting is held. We recommend the following considerations to PUC, ALJ and parties:
1) No substantive decisions on the scope should be made in the May 9th ALJ meeting.
This is too early to determine parameters. Parties could discuss item #5?
2) EQB/PUC should allow time, after application supplement and NRC EIS scoping meeting to get final comments in - and a Final Draft Scope in place.
3)) The Department recommended that PUC allow comments on the Final Draft Scope to ensure that information development is aligned on the front end. We agree

4) Work on the EIS can proceed before this final scoping opportunity. It would be helpful to frame the scenarios and factors for evaluation.
5) As recommended in 9.0. **PUC should consider holding a technical conference on alternatives development and analysis.** This could save a great deal of time in hearings, information development, evironmental review - in all aspects of the CoN proceeding. Alternatively, EQB could do this, if PUC preferred.

B. 3 parameters in particular make Xcel's application an insufficient basis for environmental review.
These will be outlined and then examined in 3 sections (at pages 1.1-1.10; 2.1-2.12; & 3.1-3.14) .

1. TERM OF STORAGE SCENARIO/S - PUC requires Xcel to provide supplementation to evaluate a long term/indefinate storage scenario, with analysis to 200 years (see attachment A, of staff briefing pprs for 3-24-05). The only term of storage scenario that will not have to be evaluated in the EIS is Xcel's claim that storage of wastes at reactor site will be "temporary". This assumption invalidates much of the rest of Xcel's analysis.

THE EIS, as the Commission list of items to be supplemented directs, will scope factors relevant to term of storage, out to 200 years. In section 4 below, is recommendation of a set of factors to be put into a grid-analysis.

2. SCOPE- AREA of IMPACT/effects:
Limiting scope of effects to "on-site" or "within" one mile (in Florence application this was .6 miles) is insufficient to consider the cumulative and long term socio-economic and environmental impacts of indefinate storage. (Limiting the area of impact, however, did have the initial advantage of avoiding any consideration of effects - to the Ms. River.)

2.1. "WITHIN FIVE MILES OF THE SITE": The EIS, as the Department indicates and the Commission directs in the list of items to be supplemented, must consider a **5 mile scope**. This 5 mile radius should be the basis for the review, inclusive of the items listed under 7855.0640 A - M, and map of land uses under F. This scope will include the Ms. River.

2.2. LOCALLY DESIGNATED SIGNIFICANT RESOURCES: In addition to signficant national and state resources identified in the supplement for 7855.0640, I-K, the EIS should also evaluate socio-economic and environmental impacts for any "areas within five miles of the site designated by regional or local authorities as having recreational, cultural, historical, or scientific significance, as indicated by local units of government" (L).

2.3. 7855.0640, M: Map showing distribution of population within 50 miles of the site (in application?).

2.4 EQB must solicit additional comments from member agencies, particularly MDH, PCA, DNR & Dept. of Agriculture, on EIS scoping considerations based upon long term/indefinate storage assumptions. Since Xcel's application was based upon an assumption of "temporary" storage, this change should be noticed to responsible member agencies, with solicitation of additional comments on the scope.

2.5 NOTICE implications: In light of supplement and change in scope, re-noticing the following parties should be discussed at the pre-hearing conference May 9. Final opportunity to comment on the EIS scope should be noticed to the following:
1. All property owners within 5 miles;
2. All local governments within emergency plan area of 10 miles;
3. County and major metropolitan governments within the 50 mile impact area established by NRC for major incidents.

This notice should include both state and federal actions:

- Web-access for ISFSI application,
- Supplement/s and notice of expanded scope of term of storage to be considered by the EIS;
- Explanation of and link to SAR, SER and Emergency Plan related to ISFSI and license renewal;
- EQB and PUC web-sites*;
- Comment and hearing schedules (past & present/future);
- Staff contacts for PUC and EQB;
- Schedule & hearing information for state process;
- Web access for federal application for license renewal with local, regional and federal contacts;
- Schedule, public meeting, and hearing information for NRC, including opportunity to petition for hearing (this should go on EQB web-site with e-copy of the NRC process chart;
- Any other information deemed relevant by staff, hearing judge, parties and Xcel.

[*Federal EIS/GEIS document links should be made available on the EQB website]

3. ASSUMING ADEQUACY OF FEDERAL ENVIRONMENTAL REVIEW SCOPE/JURISDICTIONS:
The Draft EIS scope assumes
a) that certain impacts will be analyzed in the federal EIS, and
b) that NRC authorities preempt state authorities over health and safety.

For several reasons, as well as the timing issue noted above, this is problematic.

3.1 FEDERAL SCOPING ASSUMPTIONS: The Federal EIS documentation and analysis for environmental effects of ISFSI/ at reactor site storage are not useful for examining the scenarios that Minnesota has to consider. They can provide a baseline. But the federal GEIS and EIS scoping assumptions are so limiting that the invariable conclusion of "no impacts" is irrelevant to the present proceeding. Federal scoping assumptions for ISFSI, and license renewal are as follows:

3.1.1 - All NRC GEIS/EIS documents are for term of operating licenses only;
See: Final environmental Impact Statements -- Materials License:
"(ISFSI) Unless otherwise determined by the Commission, and with the generic determination in 51.23(a) and the provisions of 51.23(b), a final environmental impact statement for the issuance of an initial license for the storage of spent fuel at an independent spent fuel storage installation and any amendment thereto, *will address environmental impacts of spent fuel only for the term of*

the license amendment applied for." (www.nrc.gov/reading-rm/doc-collections/cfr/part051/part051-0097.html

3.1.1 NRC's "Environmental Effect of Renewing the Operating License" considers the impacts of On-site spent fuel as "small", summarizing the extent of its consideration: "The expected increase in the volume of spent fuel from an additional term of operation can be safely accomodated on site with small environmental effects in dry or pool storage at all plants if a permanent repository or monitored retrievable storage is not available".

3.1.2 - All review assumes normal operating conditions; accident scenarios are not evaluated*.
The circular reasoning of the NRC is as follows: We are regulating activities according to certain standards. We will not consider possible scenarios outside the controls of those standards and the term of licensure. Therefore we conclude that there are no significant impacts to the operations that we oversee, for the duration of time for which they are licensed...

3.1.3 - NRC assumes no impacts of storage for a period of 30 years, beyond license termination;
Section 51.23--reflects the Commission's so-called "Waste Confidence" determination. It provides:

> (a) The Commission has made a generic determination that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations. Further the Commission believes there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, ..."
> (b) Accordingly, as provided in ... 51.97(a), and within the scope of the generic determination in paragraph (a) of this section, *no discussion of any environmental impact of spent fuel storage in reactor facility storage pools or installations (ISFSI) for the period following the term of the ... initial ISFSI license or amendment for which application is made, is required in any environmental report ...*
> (c) This section does not alter any environmental requirements to consider the environmental impacts of spent fuel storage during the term of ... a license for an ISFSI.94

3.1.4 - Waste Confidence Decision is presumed to cover all contingencies beyond this period.
See: *Waste Confidence Contentions...*, Docket 52-009 Before the Atomic Safety and Licensing Board, May 3, 2004.
(www.nirs.org/reactorwatch/sitepermits/ggesp50304wasteconfidencecontention.htm)

An example of the rigor of review assumptions is given in SECY-00-0021, the Proposed Rule for Interim Storage for Greater than Class C Waste. The last actual environmental review of on site storage of high level wastes was done in 1979. At this time plant licensing assumed that waste would be ongoing removal of waste for reprocessing. The assumption that waste will leave the site either for reprocessing or central storage is a foundation of NRC review that has not been revisited. Future determinations, from that point on, are formally tied to this assumption by the "Waste Confidence Decision": 1984, and 1990. In 1999 the decision was briefly reviewed, affirmed, and (according to web notes) NRC decided that it would not be necessary to review the decision further.

NUREG 1092 (1984), remains the foundation of review. Entitled, "Environmental Assessment for 10 CFR Part 72 Licensing Requirements for the Independent Storage of Spent Fuel and High-Level Radioactive Waste," and dated August, 1984, the NRC staff concluded that storage of spent fuel and HLW within ISFSIs would not result in any activity that significantly affects the quality of the human environment. (Despite its key position in this house of cards, NUREG 1092 is available only by reference on line. Copies have to be secured from the document room in Washington.)

3.1.5. Federal Preemption? However, the task at hand for PUC, and then the legislature, is to determine the potential economic effects of *long term or indefinate waste storage* at Monticello. And the costs of continuing to compensate for the failure of the federal timeline, with expenditures in addition to the Nuclear Waste Fund, including but not limited to lobbying, dry cask storage, extended pool storage, the Mescalero, Skull Valley PFS, Florence Township and other offsite ISFSI initiatives.

The EIS scope is to frame the potential for environmental impacts of long term, indefinate at reactor site storage, within yards of the Mississippi River. Because NRC assumes centralized storage, all waste is considered "interim", that is between generation and permanent repository emplacement. NRC does not consider the scenario of long term/indefinate/permanent at reactors site storage, outside the No-Action alternative to Yucca Mountain (see: 4.10) *and that scenario never analyzes the environmental impacts of storage at 72 plants around the country* (see 4.10). How then, do we interpret NRC's claim to preemption on issues related to health and safety?! It may be *easier* to accept NRC's assumptions, but it is wildly imprudent, given what Minnesota has at stake:

"The Atomic Energy Act requires NRC to promulgate, inspect, and enforce standards that provide an adequate level of protection of the public health and safety and the environment. These responsibilities in the aggregate, provide a margin of safety. A review of the regulatory equirements and the performance of facilities provides the bases to project continuation of performance within regulatory standards."

The *Generic Environmental Impact Statement for License Renewal* (NUREG - 1437 Vol. 1) concludes:
"For the purposes of assessing radiological impacts, the Commission has concluded that impacts are of small signficance if doses and releases do not exceed permissible levels in the Commission's regulation."

Yet:

"Accidental releases or noncompliance with the standards could conceivably result in releases that would cause moderate or large radiological impacts."

But:

"Such conditions are beyond the scope of regulations controlling normal operations and providing an adequate level of protection"

3.2 Types of waste to be stored at reactor sites may multiply. Fuel rods are not the only waste generated at reactors. Low Level Wastes (which include non-spent fuel *high level wastes*) and GTCC, or Greater Than Class C wastes. Large amounts of decommissioning wastes have gone to federal sites. It is possible that this option may not be available for relicensed reactors, if storage opportunties are taken by decommissioned plants. (Or perhaps continuing to run the plants could be viewed as a temporary or "interim" storage option.) In order to accomodate these wastes, NRC

is continuing to apply the same assumptions. Having to accomodate these wastes on site - in ISFSI's and pools - is also due to federal program failures:
a) Failure of state compacts for "interim" storage of low level wastes (which includes non-spent fuel high level waste) and
b) Increasing pressure on the few federal sites, like Barnwell, that have been available for these wastes.
(Not an exhaustive list of program failures)

NRC must now consider coordinating regulation of "interim" storage of Low Level Waste (LLW) and Greater Than Class C Waste (GTCC) at reactor sites in addition to spent fuel rod assembly.
"From a review of NUREG 1092 and current licensing actions, "the staff has concluded that storing NRC-licensed reactor-related GTCC waste (e.g., burnable poison rod assemblies, control rod assemblies, and thimble plugs) using 10 CFR Part 72 criteria has no significant environmental impacts. This review considered functional areas of heat generation, criticality, structural stability, and radiation risk from dry storage within the ISFSI. For other reactor-related GTCC waste specific technical and environmental evaluations will be performed as part of the licensing review for the application or amendment." (SECY-00-0021).

EIS SCOPE ISSUE: What wastes, in addition to spent fuel rods, may need to be accommodated at the ISFSI, over the 200 year period examined in the EIS? See Cumulative Impacts 5.0.

* The state of Nevada has recently initiated a formal, legal challenge to the waste confidence decision.

4. TERM OF STORAGE SCENARIOS
All factors in this section are intended to be applied to 4.10, the storage scenarios as outlined in PUC, Attachment A, item 7

4.1 Factors - to be scoped along timeline (see also 6.0 Cumulative effects)

4.1.1 With time = degradation and interaction of containment and waste materials
1. Cask license term and term renewals
2. Cask materials performance*
- Burn up rate
- Length of time in pool
- External conditions - Global warming increasing moisture, river level, storms
- alloys used, interactions
- Condensing rods
- Other

3. Handling factors
- Hot box, or pool (along time line)
- Safe transport & emplacement
- Tipping casks and 'crud'
- Rod transfer etc.
- Other identified

4.1.2. With addition of Prairie Island Waste, on Ms. River (see: 6.

4.1.3 With addition of waste from other reactors being placed at Monticello:

4.2 Factors - Incomplete and Missing Information - This has not been scoped and is required in EIS rules.

4.3 Factors - Uncertainty - This is a critical item to scope, as one commenter has already noted. "Such estimates would involve very great uncertainty, especially with respect to cumulative population doses..." (GEIS for License Renewal, p. 16/31)

4.4 Factors - Costs, funding assurance (see also 6.0)
4.4.2 With NWF, or other designated and secured appropriations for at reactor site storage expenses (now reserved for central storage options)
4.4.3 Without NWF, or other designated and secured federal appropriations
4.4.4 With adequate decommissioning funds (esp. if waste from decommissioning remains at reactor site, per 4.7 & 6.4)
4.4.4.1 Under management scenarios outlined below, in 4.5.2.
4.4.5 Without adequate decommissioning funds.
4.4.5.1 Under management scenarios outlined below, in 4.5.2.

4.4.1 Insurance
4.3.1 -With Price-Anderson
4.3.2 Without renewal of Price -Anderson
4.3.3 Under management scenarios outlined below, in 4.5.2.

4.5 Factors - Institutional controls -- over a long/indefinate period of time - All items must also refer back to **4.4** for assessment of cost and funding assurance - for impacts with and without funding, management and monitoring assurances:
PUC Supplement Attachment A, item 2, 8.

"On the other hand there are uncertainties associated with any reliance on institutional controls. In its recent report (NAS, 1995), NAS concluded that there is no technical basis for relying on institutional controls for high-level waste facilities"...

4.5.1 Scoping Monitoring Plan and assurance provisions under management conditions 4.5..2.1 - 4.5.2.6:
4.5.1.1 Scope of monitoring variables must be established
4.5.1.2 Existing monitoring, adequacy of for site, air and water
4.5.1.3 Additional monitoring and scope for site, air and water; adjacent and downriver municipalities, as the timeline unfolds.
See also 4.4, 6.0, 8.2 & 8.3

4.5.2 Management/oversight variables under the following scenarios:
See also 4.4, 6.0, 8.2 & 8.3

4.5.2.1 Continued combined NRC and State Oversight
4.5.2.2 Continued NRC oversight only. Authorities in the case of No-Action Alternative to Yucca Mountain should be clarified. NRC is likely to remain assigned to oversight. Standards for such oversight have not been promulgated

4.5.2.3 DOE oversight only (if DOE "takes title" to site and/or waste at reactor site, the site then becomes fderal property and responsibility. Utilities are responsible until DOE "takes title" or removes waste. State retains no oversight authorities if DOE takes title?)
4.5.2.4 Regionalization of site and waste (under 4.5.2.3 or 4.5.2.6) - Scenario analyzed in EIS for Yucca Mtn.
4.5.2.4 - A. waste removed from former plant sites
4.5.2.4 - B.wastes consolidated at former plant site/s on Ms. River.
4.5.2.4. State oversight only (default). .
4.5.2.5 Local Government oversight (default)
4.5.2.6 Privatization of site and waste; oversight by holding companies, or decommissioning agents only. See: 4.5.2.4, regionalized scenarios A & B - under privatization.

4.5.4. Maintenance
4.5.4.1. Factor to be calculated along timeline, with 4.1.1 factors
4.5.4.2. To be considered in Management/Ownership scenarios
4.5.4.3 See 4.4 & 4.5 **funding and insurance - assurance needed under EACH scenario.**

4.5.5 Ownership structure variables in relationship to accountability in other sections of 4.0, esp. 4.4 & 4.5 - including funding, monitoring, maintenance.

4.5.6 Legal implications of the oversight, environmental, health and safety assurances, and funding contingencies in sections above have not been reviewed by the state's attorney general. See also 6.2.4.

4.6 Factors - Decommissioning Scenarios
4.6.1. DECON (?)
4.6.2 SAFESTOR
4.6.3 ENTOMB
4.6.4 Beyond EMTOMB assumptions

4.6.1 Ownership,/Management variables and decommissioning fund control.
Major issue, to be scoped for impacts to oversight, management, monitoring, and funding.
NOTE: **Decommissioning funds DO NOT cover, nor are they intended to assure, funding for waste left on site at ISFSI.**

4.6.2. Waste left from Decommissioning at ISFSI. Possibly there is room for negotiation of this point, if significant amounts of decommissioning waste have to be left at the ISFSI or in the pool, due to lack of centralized or federal storage availabililty

4.7 Factors - Total amounts of waste to be emplaced in ISFSI
4.8.1 Fuel Rods
4.8.2 LLWaste
4.8.3 GTCC waste
See 4.6.2

4.8 Factors - Waste transfer facilities - a number of cost, design and oversight issues here.
4.8.1 hot box or
4.8.2 pool
4.8.3. Assurance of funding to cover additional casks and necessary equipment to ensure this capacity out to 200 years (or more, YM closure is slated for @ 300 years from opening).

4.8 Compatibility with Yucca Mountain or other near or distant storage option -
4.8.1 Cost and accountability
4.8.2 Condition of fuel

4.9 Factors - Transportation - In evaluating transportation the GEIS for license renewal acknowledged that there a great many more local ordinances, requirements and notices that would affect the successful transportation of nuclear waste, from reactor sites to any other site. There are a whole set of uncertainties that have to do with timely and successful transportation.

4.10 STORAGE TERM SCENARIOS
Type (of waste stored) and Contingencies*

Federal EIS could help with this scope

Unlike NRC, Minnesota -- and the EIS for Monticello -- cannot assume a federal repository, centralized MRS (illegal without Congressional approval), adequate funding for federal waste programs or research. There is NO federally sanctioned, or Congressionally approved accomodation for waste from relicensed reactors. (NWF applies?). And if the second site search is revived, Minnesota may still be a candidate for a national repository.

NRC does not make any connection between the licensing or review of license renewal and ISFSI permits. They happen under different sections of the regulations and therefore, according to NRC, have no causal relationship which might be evaluated. They have never simultaneously reviewed an ISFSI and a license renewal. But Minnesota, both by law (2003) and necessity, must make this connection.

Timeline and contingency analysis: Yucca Mountain, if built, would remain open after emplacement of waste was completed, to allow futher cooling, guarantee retrievability of waste and make monitoring easier for this period of time. PUC has ordered analysis of costs of long term storage scenarios (*PUC Supplement Attachment A, 7).*

- NRC regulations limit cask and ISFSI permits to a total of @ 40 years.
- DOE No-Action scenarios (DEIS, 9) recommend complete replacement of dry cask facilities every @50 years
- Studies have not projected cask performance, or cask & fuel interactions, beyond 20 and 100 years. (EPRI analysis did not look at degradation factors between 20, initial cask permit period, & 100 years?)

* Including Global Climate Change factors (see 6.2.2)

4.10.1 Current waste scenarios:
Timeline materials attached for current scenarios

Federal EIS could help with this scope

4.10.1.1. Assuming Yucca Mountain - on time:
(see timeline)

4.10.1.2. Assuming centralized above ground storage at YM. Timeline unknown, must be projected

4.10.2 DOE No-Action Scenarios**

This scenario could be triggered by many events including but not limited to: failure of program, due to lack of confidence; regulatory decisions; court decisions; congressional decisions; executive decisions; change of YM program to research; change of ownership or managment of program; DOE decision; or defacto = failure of other alternatives and programs. That trigger could have been as early as 2002, when the executive decision was scheduled (had it failed), or as late as the longest scenario considered in the EIS (200 years). See 4.4 and 4.5.

4.10.2.1: DOE No-Action Alternative #1 (Summary.5.2.1) - Long term at reactor site storage with effective institutional controls for at least 10,000 years. "Under this scenario, releases of contiminants to the ground, air, or water would be extremely small under normal conditions...."

4.10.2.2: DOE No-Action Alternative #2 (S.5.2.2)- Long term at reactor site storage with no institutional controls beyond 100 years. "Under this scenario, after 100 years the facilities storing the materials at 72 commercial and 5 DOE sites woiuld begin to deteriorate and would continue to do so over time. Eventually (spiking between 200 & 300 years), radioactive materials from failed facilities and storage containers and exposed radioactive materials would contaminate the land surrounding the storage facilities, potentially rendering it unfit for human habitation of agricultural uses for hundreds or thousands of years. Contaminents would enter surface waters and groundwaters, which would remain contiminated....Released radioactive materials could produce chronic radiation exposures to the public, which could result in adverse health impacts....Intruders could incur severe radiation exposures, including fatal exposures. The number of people who would be affected by themigration of radioactive materials [under this scenario] would be much greater in [DOE] scenario 2, than in scenario 1" (p. S-58).

The **No Action Alternative** is analyzed in the Draft Environmental (DEIS) and Final Environmental (FEIS) Impact Statements
for Yucca Mountain, (www.ocrwm.doe.gov/documents/feis_2/vol_3_4/ch9v3p4.htm). Attached are sections S.5 - S.11 of the Summary from the DEIS, outlining the No-Action alternative. This is taken from the appendix of the *1999 Annual Report Federal Programs for the Management of High-Level Radioactive Waste...conducted under 116C.712* by EQB. Attached also are the first 10 (of 53) of comments and responses from the FEIS.

4.10.2.3 Sabotage/Intrusion: Again, to render a decision of 'no potential effects' of these scenarios, the intrustion/sabotage scope is kept as a separate assumption (S.5.2.3). This, despite the fact that it is almost impossible to imagine that intrusion or sabotage would not take place under scenario 1, over a period of 1,000 years, or under scenario 2 where there are no institutional controls. The EIS should consider this item.

4.10. 3 Other scenarios, along 200 year timeline - to be scoped by EQB or EQB & NRC and interested public. How will EQB/PUC frame the scenario that is suggested by the parameters it has established, long term storage for up to 200 years, considering the factors outlined in 4.0, and 6.0? What will be the assumptions for:

- Institutional Controls
- Environmental Protections and mitigations
- Management
- Monitoring
- Oversight

- Costs of maintaining same
- Emergency planning
- Transportation assumptions and potential for interference with plans for removing waste from the site, along the timeline and under several scenarios.

4.11 Compatibility with NRC assumptions for EIS? - The GEIS for license renewal (in conjunction with decisions based on NUREG 1092) governs the federal EIS. At the same time, any of the items reviewed in conjunction with federal EIS standards under part 51 provides for exemptions. The impacts of NRC assumptions, as outlined in 3.0 above, upon state review - could constitute a major federal action under NEPA or MERA. E.G. Citation follows for **§ 51.6 Specific exemptions.**
"The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and are otherwise in the public interest."

4.10.2.3 Sabotage/Intrusion: Again, to render a decision of 'no potential effects' of these scenarios, the intrustion/sabotage scope is kept as a separate assumption (S.5.2.3). This, despite the fact that it is almost impossible to imagine that intrusion or sabotage would not take place under scenario 1, over a period of 1,000 years, or under scenario 2 where there are no institutional controls. The EIS should consider this item.

4.10. 3 Other scenarios, along 200 year timeline - to be scoped by EQB or EQB & NRC and interested public. How will EQB/PUC frame the scenario that is suggested by the parameters it has established, long term storage for up to 200 years, considering the factors outlined in 4.0, and 6.0? What will be the assumptions for:
- Institutional Controls
- Environmental Protections and mitigations
- Management
- Monitoring
- Oversight
- Costs of maintaining same
- Emergency planning
- Transportation assumptions and potential for interference with plans for removing waste from the site, along the timeline and under several scenarios.

4.11 Compatibility with NRC assumptions for EIS? - The GEIS for license renewal (in conjunction with decisions based on NUREG 1092) governs the federal EIS. At the same time, any of the items reviewed in conjunction with federal EIS standards under part 51 provides for exemptions. The impacts of NRC assumptions, as outlined in 3.0 above, upon state review - could constitute a major federal action under NEPA or MERA. E.G. Citation follows for **§ 51.6 Specific exemptions.**
"The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and are otherwise in the public interest."

4.12: NRC Preemption? When storage assumptions are NOT based upon assuming federal centralized storage on present timelines, assuming NRC preemption of health and safety factors may not be (we would claim, is not) a prudent assumption.

4.12.1 Will EQB maintain the assumption of NRC preemption that is currently in its scope?
4.12.2 Will PUC's evaluation of potential costs and benefits - assume NRC preemption of all health and safety factors, particularly those related to water quality/protections?

Other preemption issues related to long term ownership/maintenance:
4.12.3 Will PUC allow the "take title" provision to be activated by the utility?
This would create a federal site
4.12.4 What is DOE's accountability to NRC standards?
4.12.5 What would the State's Attorney General advise?

**There are some challenges associated with these scenarios, as many commenters noted. The No-Action Alternative assumes that waste remains at 72 reactor sites. However the EIS assumption and conclusion was based upon a scenario where waste is regionalized in 5 centralized sites. This allowed DOE to focus its analysis on regional thaw-freeze and rainfall cycles, since moisture is the most signficant factor in degradation of materials, release and dispersion of radionuclides - into the biosphere.
The EIS, by this fiat, however -- failed to consider the precarious location of a number of reactors on major water bodies.

When 8 (9?) sites in Minnesota were under consideration for the *second national repository* (still in federal law) - the state considered the northern Mississippi watershed a highly UNdesirable place to site nuclear waste. Federal siting standards disallowed this criteria. Eventually Yucca Mountain was chosen for its desert conditions. But subsequent analysis has shown more movement and presence of moisture, even there, than was expected. Scandal, court decisions, and funding issues have
continued to plague the Yucca Mountain project. Although President Bush made the scheduled decision to proceed, the NRC application may be seriously derailed by the recent court decision that reverted to the Congressionally mandated National Academy of Science (NAS) standards. Prognosis of the Yucca Mountain repository is not optimistic at this time.

5. RELEVANT PERMITS AND PLANS (Scoping EAW item)

5.1. WATERSHED MAP and list of WATERSHED DISTRICT MANAGEMENT PLANS, within the 5, 10 and 50 mile radius; EIS should examine compatibility with watershed district and BOWSR plans. BOWSR Board Chair should be solicited for EIS comments and comment on scope.

5.2 CITY WATER PLANS AND EMERGENCY WATER PLANS

5.3 Other? There may be a number of both federal, state and local plans and permits that are relevant when the Mississippi River becomes part of the scope. When 7855.0640 is scoped, this section should be reviewed again for I - L.

6.0 CUMULATIVE EFFECTS (Scoping EAW, item) and Scenarios. Joint Federal, State scoping item**?** Under the assumption of long term, rather than temporary storage, the question of cumulative impacts becomes not peripheral but central.

6.1 With Monticello relicensing and ISFSI :
6.1.1 Cumulative Emissions and discharge - section needs to be filled out for factors (Radionuclide exposure to _____, _____ mile radius under scenario _____, ____, _____ & _____)
6.1.2. With Prairie Island relicensing and expansion of ISFSI capacity

6.1.3 With extended on site storage - long term or indefinate - after decommissioning.
REMEMBER: There is no legal federal plan for waste from relicensed reactors.

- Yucca Mountain capacity will be filled by 2050.
- Last waste shipments from original licensure - if YM opens by @2015 - will leave the state no earlier than 2045.
- Original cask and facility licenses will have been extended to their maximum current permit deadlines by this time.
- Non-fuel rod waste from continued operations, and military waste will likely have multiplied beyond capacity at 5 federal sites. This waste will likely also stay at reactor sites.
- ANY waste generated under license renewal will be WITHOUT a central storage plan, unless Congressional action, additional study, permits AND funding - allow drilling for additional waste from relicensed reactors.
- If the No-Action alternative is triggered by failure of the federal program, 3 scenarios are possible:
-

6.1.3.1 See: 4.0 for scenarios under which to scope cumulative effects
The 3 key factors under these scenarios are outlined in sec. 4.0Consider the 3 key factors:

- With Xcel ownership/NMC management
- With transfer of ownership to out of state company - state authority?
- With transfer of ownership to DOE (not subject to NRC OR state oversight)
- No state authority for oversight.
- Facility deterioration begins @2060, accute by 2090.
- Abandonment of site by 2080?
- Major agency reorganization at Federal Level?

6.2.1 Water supply: Evaluate number of people and jurisdictions, from Monticello to Prairie Island, and south to Dubuque - who would be affected by contamination of water supply due to a) natural attrition of waste containment, b) sabotage. Calculate rate of air and water flow, and effects of release under 3 scenarios, and contingencies.

6.2.2 Global Climate Change: General effects of global climate change are highly relevant to the multiple roles of water in scoping of the effects of long term at reactor site storage - on the Ms. River. These effects may include, but are not limited to change in volume and course of the Ms.River

6.2.3 Multiple roles of water:
6.2.3.1. Water is the main factor in degradation of materials
6.2.2.2. Water is the main path of radionuclide dispersal in the event of releases.
6.2.2.3. Water (quality) is the natural resource that is most critical to the health, safety and well being of
a) biological,

b) economic, and
c) social systems.

6.2.4 Water permits are required to continue operation of plant. States govern water supply appropriations.

6.3. Tridium impacts to river, groundwater and water supplies; pipes under plant are a source of tridium exposure when they become old and crack (Conference presentation, Chicago, IL, Sept. 2004; reference available). This is an important item to scope because of the Prairie Island Community well replacement in the last decade, necessitated by Tridium contamination.

6.4 See: 3.6 - Cumulative effects of additional waste-types to be accomodated. Xcel must provide analysis, along the timeline of types and amounts of waste that may need to be accomodated at reactor site, assuming no storage relief, or new storage burdens due to contingencies

6.5 Cumulative Impacts of multiple program failures. This would be a good cooperative scope with the Federal EIS.
(see 4.0)

6.6 Cumulative Effects of Uncertainties; missing and incomplete information. Cross-reference to 4.2 & 4.3, missing and incomplete information and uncertainties.

6.7 Cumulative Impacts to natural and socio-economic resources which would be identified under 7588.0640 and/or by those identified below in 7.0. *See PUC Supplement Attachment A, 1. Cross reference to 4.2 & 4.3 - Uncertainties and Incomplete or Missing Information.*

7. Scenario and cumulative effects on other resources, as identified in 7855.0640 I - L by:
7.1 MN Department of Natural Resources

7.2 Minnesota Department of Health, under scenarios

7.3 Pollution Control Agency, under scenarios

7.4 Department of Agriculture, under scenarios

7.5 Trade and Economic Development; Tourist interests and associations

7.6 BOWSR Board and adjacent local boards within 5 and 10 mile (emergency plan) radius/s

7.6 National Park Service

7.7 Mississippi Corrider Commission

7.8 Army Corps of Engineers

7.9 City and local governments

7.10 Audubon and Flyway Associations

7.11 Other identified interests (particularly water, recreational, and natural resource interests). As part of comment on expanded scope for term of storage, EQB members could be asked for key names of organizations whose interests might be affected re: 5 mile and expanded term of storage scopes.

7.12 Interested members of the public
See PUC Supplement, Attachment A - 1

8.0 GALL - Generic Aging Lessons Learned; Emergency Planning and other contingencies. This document outlines parts and potential failures, management plans and need for additional evaluation. If the EIS does NOT consider actual accident or release scenarios, other than those scoped along the timeline for storage contingencies, then it will be necessary to include the impacts of NOT assessing these risks. *See PUC Supplement, Attachment A - 6.*
8.1 Effects upon emergency planning. If the EIS scope does not identify the most vulnerable resources and populations to the potential for release of radionuclides in various scenarios, how can these populations be noticed, or plan reasonably for contingencies that are NOT included in the NRC EIS scoping assumptions (see 3.0), or Xcel's application.
8.2 Necessary monitoring programs. See above.
8.3 Effects upon financial assurance of adequacy of monitoring and emergency programs for long term storage.
See above**.**
8.4 Effects upon adequacy of insurance for long term storage scenario.
8.3.1 With Price-Anderson
8.3.2 Without Price-Anderson
8.5 Other

9.0 Alternatives Analysis.
9.1. Federal Alternatives analysis for GEIS for license renewal assumes coal is the only viable alternative to be analyzed. This conforms with Xcel's initial conclusion. While this would make the proceeding simpler for Xcel, and possibly for regulators, it is unacceptable to parties and general public. It is not likely to be considered sufficient in Legislative review, given state history of the topic.

9.2 EIS alternatives development must include, at least, direction for in PUC Supplement, Attachment A - 3/24/05.

9.3 Meeting to discuss alternatives. PUC/DOC/EQB should hold a separate scoping meeting for discussion of how development of alternatives will move forward, after Xcel's supplement is done. This should not attempt to be fully scoped, or limited by discussion at the first meeting with the ALJ on May 9th.

9.4 Model/s other than (or in addition to?) **Xcel's strategist should be used to analyze the alternatives.** Information as to available consultants and relative advantages of more widely used models is easily avaible. Strategist is a proprietary model which is not transparent to parties, state or other professionals.

9.5 Should PUC/Xcel consider an RFP for replacement power for Monticello - either in this proceeding, or under its IRP? This would enable the commission to better determine what credible alternatives might be available in the timeline given.

10.0 Sabotage/Terrorism - and recent reports on inadequacy of security at nuclear power plants. This literature should be reviewed and items scoped from that review for development in EIS scope.
This is related to, but distinct from the sabotage discussion. It is meant to be referenced to specific concerns estabished by NRC and in news media. This affects public confidence.

10.1 Releases from terrorist incident with at least 3 scenarios should be evaluated for all impacts - Federal EIS could help with this, under the following 3 assumptions:.
10.1.1 For plant during operating life
10.1.2. For ISFSI and pool "
10.1.3 For ISFSI and pool, after decommissioning.

10.2 Releases from terrorist incident for cask operations & /or transportation scenarios that might take place within MN borders.

*Possibly in response to the shield lid incident at Point Beach in May, 1996, EPRI commissioned a study of cask and fuel rod materials interactions in 1998: Data Needs for Long-Term Dry Storage of LWR Fuel - TR- 108757, by Battelle's Pacific Northwest Division.

The study concludes that the greatest uncertainties going forward, looking at 20-100 year storage, were the effects of high-burnup fuels (their conclusions apply only to burnup below 55GWd/MTU); rod consolidation; and the behavior of the non-fuel components: cask, basket, absorbers and seals. The baskets and plates are iimportant in that they keep the rods in place in the cask. To meet NRC standards, dry storage must:
1) maintain subcriticality (water-moisture in cask greatest danger);
2) prevent release of radioactive material above acceptable limits;
3) ensure that rates and doses don't exceed acceptable limits; and
4) maintain retrievability of the stored radioactive material.

Minnesota Statute: 116C.705 Findings

The legislature finds that the disposal and transportation of high level radioactive waste is of vital concern to the health, safety, and welfare of the people of Minnesota. To ensure the health, safety, and welfareof the people, and to protect the air, land, water, and other natural resources in the state from pollution, impairment, or destruction, it is necessary for the state to regulate and control, under the laws of the United States, the exploration for high level radioactive waste disposal within the state of Minnesota. It is the intent of the legislature to exercise all legal authority for the purpose of regulating the disposal and transporation of high level radioactive waste.

HIST: 1984 c 453 s 1

POSTSCRIPT

I. Advocacy of on site storage.

Possibly the most notable documentation related to the Yucca Mountain No-Action Alternative, is the number of commenters who are ADVOCATING for keeping the waste at reactor sites. This one summarizes the fundamental issue, underlying the Environmental Review of the Monticello ISFSI: "This draft EIS does not offer a reasonable alternative [to Yucca Mountain]".

Despite the Nuclear Waste Policy Act's exempting repository siting considerations from the heart of a true NEPA analysis - the need for a repository and any alternatives to the Yucca Mountain site - this Draft Environmental Impact Statement and the proposed action are still seriously flawed in a number of ways.First, the No Action alternative, which is the only alternative to a Yucca Mountain repository development decision, is defined in such a way as to make it not only unreasonable and unsafe, but also unlawful. The National Environmental Policy Act requires that alternatives be reasonable.

This Draft EIS considers No Action to be either leaving irradiated nuclear fuel at the reactors, with no controls, for ten thousand years, or leaving it at the reactors with controls for 100 years and then with no controls for another 9,900 years. Neither case is reasonable, nor would it be permitted under the reactors' licenses that require full control of nuclear materials at the reactor site. The No Action alternative is prescribed in the Nuclear Waste Policy Act - if the Yucca Mountain site is unsuitable, the Secretary of Energy is to so inform Congress, make recommendations for future action, and wait for further direction, which assuredly would not be leaving the irradiated nuclear fuel on site with little or no control for 10,000 years. For those of us who believe, on technical grounds, that the Yucca Mountain site is unsuitable for development as a repository, this Draft EIS does not offer a reasonable alternative.
<http://www.state.nv.us/nucwaste/news/nwpo990927.htm>

II. Environmental Impacts of the Fuel Cycle and Transportation: Waste Confidence Rule

The NRC's Waste Confidence Rule is codified at 10 CFR 51.23. Section 51.23(a) states:

> The Commission has made a generic determination that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least thirty years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations. Further, the Commission believes there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within thirty years beyond the licensed life for operation of any reactor to dispose of commercial high-level waste and spent fuel originating in such reactor and generated up to that time.

The result of the generic determination in Section 51.23(a) is that there is no need to consider the environmental impacts of the onsite storage of spent fuel (in environmental reports, environmental impact statements, environmental assessments, or other analyses), for the period following the anticipated expiration of the license, in reactor and independent spent fuel storage facility licensing proceedings.

Section 51.23(c) requires that environmental impacts during the term of the reactor operating license or a license for an independent spent fuel storage installation (ISFSI) be considered in a licensing proceeding. However, the underlying assumptions remain: (1) Safe disposal of radioactive waste and spent fuel in a mined geologic repository is technically feasible; (2) one or more geologic repositories will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within 30 years beyond expiration of any reactor license to dispose of high level waste (HLW) and SNF; (3) HLW and SNF will be managed safely until sufficient repository capacity is available to assure the safe disposal of all high-level waste and spent fuel; (4) if necessary, the SNF can be stored safely and without significant environmental impacts for at least 30 years beyond the reactor license expiration at either an onsite or offsite storage facility; and (5) safe independent onsite or offsite storage capacity will be available if needed.