

MAY 22 1975

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COMMENTS ON PNL 189a

1. Deposition and accumulation of minerals released from a cooling tower in a Douglas fir forest--the only criticism I have relates to the suggested greenhouse studies (see p. 3, line 11). I have questions about the usefulness of such experiments because of the importance of environmental factors such as temperature, humidity, precipitation, sunlight, etc. The last sentence on p. 4 looks encouraging.
2. Synergism of herbivory and chemical by-products from fossil fuel combustion and conversion processes upon vegetation in the semi-arid region of western United States--there is no scope in this 189 although under Section 17 there is a description of the work. The write-up is very brief, but I think the concept has some merit.
3. Influence of soils and aquatic sediments on the chemical behavior transport and bioavailability of pollutants resulting from energy generation--why are there no citations to the literature? The discussion on Tc is good but what is the basis, justification for studying Hg?
4. Suspended particle interaction and uptake in terrestrial plants-- I need specifics on the experimental variables and the design in order to evaluate. Will humidity during and after exposure be a variable? What about temperature, sunlight and particle size?
5. Potential for plutonium complexation in soil and uptake by plants-- there is only one published paper listed. I would provide a warning now to the effect that we expect to see between 5-10 papers in print by this time next year. There are numerous presentations and abstracts listed. They should be followed through to publication stage. Can we have more specifics on goals (see p. 5)?

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- 2 -

6. Weathering and aging effects on uptake of transuranics by plants-- what are the dimensions of the lysimeter? How many grams of soil and what is Pu concentration in the soil? What is the concentration factor. More detail in Section 18 should be provided regarding fertilization and watering and growth chamber studies.
7. Restoration of surface-mined lands in arid regions--interesting.
8. Environmental effects of oil shale development--this 189 needs substantial rewrite. It sounds too much like an educational exercise for PNL. I suspect that much of what they propose for initial work is already available. They should demonstrate they know the state-of-the-art and knowledge.

Also, there should be discussion of the need for research on external retorting and spoil handling in view of the greater focus on in-situ technology.

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bcc: EP Reading File

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