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September 9, 1989

TO: Vic Phillips, HNEI

FROM: Jackie Miller Jackie Miller

SUBJECT: Request for Review of HNEI/PICHTR
1989 Biomass Gasifier Scaleup Proposal
Environmental Impact Section

Per your request and our conversation earlier this week, I have put together the following thoughts for your consideration. John and I had briefly discussed this project before he left so I hope I have conveyed most of his concerns also. However, since he is not here to review the final comments, I should be held responsible for the comments!

The first paragraph of the copy we have (page 56) refers to oils and tars that will be carried out of the gasifier....etc. This paragraph has been crossed out so I an not sure if it was to be included in our review. However, if it is still under consideration, you may want to check the number of the stainless steel alloy, ie. 310, that is being proposed. It runs in my mind that a different number (perhaps 317???) is required if any salt water or brine is involved. I just know that the particular alloy is absolutely essential otherwise the "stainless steel" is useless. I believe Jack Huizingh over at NELH has lots of data on the right alloys of stainless to use and if there is any question I urge you to check with him.

6. Waste Streams

The initial paragraph specifies that "all federal, state, and local regulations for air, water, and solid waste emissions" will be met. This is an important point as past experience has shown that in some cases only federal standards were being considered. Since state standards may be more stringent that federal standards, it is particularly important that the need to meet local emission standards is laid out in black and white!

There is no indication of the characteristics of the "335,000 pounds of steam" that will be produced. I believe some description of the chemical composition of that discharge should be included. Even if it is totally benign, i.e. "pure" hot water, big clouds of white "smoke" (steam) are a source of community apprehension and potential alarm. To defuse such

concerns earlier on seems wise and hence a full disclosure of the characteristics of the discharge is appropriate. A table indicating the relative emissions from each of the various types of fuels anticipated would let the reader see at a glance what the relative characteristics of each are.

a. Atmospheric Emissions

I note that the dryer will be fueled with propane. At some stage in the assessment you should address the siting of the propane storage tanks and the transport of the material from the docks to the storage tanks. Roads in the Puna section (if that is where this will take place) are not the greatest. Care should be given to both transportion safety as well as storage issues. Storage should be far enough removed from the any public access roads to preclude lack of access in case of emergencies.

What is the expected chemical composition of the Dryer discharge air? What products will be removed by the two-stage cyclone separator? How/where will they be disposed? It is my understanding that a number of toxic compounds may be found in so called "flue ash" residues. (You may want to look at our Environmental Reporter recent case rulings as I recall quite a discussion on this topic and the federal decisions regarding incinerator ash disposal.) Again, what will the emissions from the boiler stack be? (last sentence, paragraph a, page 57).

b. Liquid Waste

Sorry I don't understand the process better...so maybe this question is off base. However, if cooling water is used, and if cooling water will increase the current water blowdown, even by a small amount, why is there no liquid waste from the gasifier? If there is ANY liquid waste for disposal, its characteristics, volume, and disposal site are essential.

c. Solid Waste

We really question the statement that the "ash is environmentally inert". This may be a serious concern and support for the statements made in this paragraph should be provided. (Check the reference in a. above).

d. Noise

I have no clue as to the existing noise levels at the present plant....However, I think the design should certainly strive for a reduction if at all possible. The apparent premise that as long as the new operation is not noisier than the existing operation seems most imappropriate to me. Presumably we are talking about a new, permanent, energy conversion system that is likely to be the prototype for future such plants. It seems essential that every effort be made to assure that this plant is the cleanest, quietest, and least environmentally obtrusive as possible. Future such plants will be determined on the basis of the success of failure of

this one. Noise, is a highly significant public issue of almost constant concern, particularly in the more rural areas. I believe that a committment to a quieter operation than what presently exists is essential.

Check List

Vic, we spoke briefly about check-lists, their advantages and disadvantages. Yours looks about as good as any. Without walking over the specific site with a copy of the plans in hand, I don't think I can add much to it. However, if you have not done so, I strongly suggest that you do a field reconnaisance with that thought in mind. Peter and I had made up very similar checklists before going to Micronesia with the exact same purpose. When we got there and did the site survey, we found that major changes were needed in our pre-fabricated check-lists. There is simply no way to develop an adequate generic check-list. Potential impacts have to be identified based on a specific project and the specific site where it will take place. I don't believe there is an alternative to this procedure. I have xeroxed a couple copies of our check-lists and the section that Peter covered in our work shops for your information.

I might add one final thought on the Checklist (Section B.16.-- Economic). I note that in almost every case the qualifier "adverse" has been added to the question as to the effects of the project. I would suggest that this be dropped. In the first place, "adverse" to one person could be a "benefit" to another. As far as preparing the environmental assessment/environmental impact statement, what is needed is a description of the impacts, whether they are positive or negative. Each is equally important. In general, avoidance to the extent possible, of subjective qualifiers such as "substantial", "adverse", "enhance" in the check list should be attempted.

You'll notice in the Checklist sample that we got from Pohnpei, that they use lots of the subjective qualifiers. They do, however, also include some criteria for significance (that also use subjective modifiers).

The bottom line is that it is very hard (impossible???) not to involve subjectivity in check lists or significance criteria, but an attempt to do that should be the goal.

Hope these miscellaneous thoughts and suggestions will be of help. Don't hesitate to call me if you have any questions etc.

cc: John Harrison