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WASTE SECTION

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Los Alamos National Laboratory
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memorandum

TO: Roger B. Perkins, ADS, A120 DATE: June 21, 1988

FROM John M. Puckett, HSE Division Ldr MAIL STOP/TELEPHONE: K491/7-4218

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SUBJECT Lab Incineration Projects - Additional Issues

In response to your inquiries raised relative to our earlier incineration status memo (HSE-DO/341), we have prepared the folowing information and analysis for your review. The first two responses incorporate input solicited from M and WX Division Offices.

1. Adequacy of planned incinerators relative to Laboratory needs; M and WX Division needs.

As indicated in the referenced memo, we believe the combined capabilities and capacities of the five incinerators will meet Laboratory combustible waste disposal/treatment needs for the next decade. Caveats attached to that conclusion are the uncertainties related to formerly utilized sites and future programmatic mixes at the Laboratory. Substantial changes in waste volumes or compositions from these two sources could exceed proposed incineration capacities or capabilities and additional units could be required.

Relative to M and WX needs and in the interest of completeness, we should also mention a sixth thermal treatment unit, the HE bulk furnace, which has been proposed as an FY 1991 line item. More correctly designated a "roaster" than an incinerator, the proposed installation will process non-combustible materials which have been exposed to HE and must be deactivated prior to disposal. The equipment includes a natural gas fired "car bottom" furnace, bridge crane, utilities and controls. A 3/87 cost estimate shows a TEC of $1141K including contingency, escalation and ED&I.

The total volumes of combustible waste produced by M-Division groups is summarized on the attached figure (Attachment A). The actual TA-36 waste volume is some 20,000 ft^3/year rather than the 2200 ft^3/year included in our earlier memo. The latter volume is the volume of raw materials used annually to build shot stands, etc.; the volume of shot debris is approximately 10 times the volume of the original construction materials. By comparison, the TA-39 represents about 1% of the total M Division waste volume. The proposed TA-36 incinerator will be sized to

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accommodate both the short-term and long-term needs of M-Division and will provide backup capability for WX-Division needs.

2. M-Division use of S-site incinerator.

Based on M-Division discussions with WX-3, the S-site incinerator could be operated on a four day per week, two burns per day schedule to accomodate the TA-36/39 waste volumes. Use of the S-site unit, however, would require size reduction or compaction of the TA-36 wastes which introduces an additional risk due to the potential for explosives contamination. Transport of the TA-36 material via internal roads indeed is feasible but poses a problem in that the route passes through several shot sites. In the judgement of M- and WX-Division staff, combined usage of the S-site incinerator would totally commit operational reserves of that unit, require full time operation, allow minimum downtime for maintenance and malfunction, and reduce the expectable operational lifetime of the unit. Conversely, a new unit at TA-36 would be specified to accept shot debris without pretreatment. An additional benefit for a second unit is the backup it would provide for the existing S-site operation.

3. HSE has been far more involved with the M-Division unit than either the solid-waste-fired boiler or the WX unit. We have provided substantial input to a variety of concerns, provided contacts and have offered to remain involved in the project as it moves toward fruition. However, we believe it would be wrong for HSE to manage the project -- even if we had the resources. Involvement during the conceptual and detailed planning stages is all that is required to insure that our incineration expertise is used to the benefit of the Laboratory.

4. Gantt chart planning/scheduling is being used for the CAI upgrade (see Attachment B). Based on delays experienced both in the design and actual construction of the gravity ash pit, the completion target date is now more realistically spring as opposed to fall 1988. Documentation related to permitting is intrinsic within the Gantt chart milestones. However, the CAI does have interim status and can be operated for mixed waste treatment within those very substantial bounds immediately after resumption of operations. NMEID has indicated that a final draft permit will be prepared by September 1988; public notice will likely occur near the end of the calendar year.

Project management schedules for the new LLW/MW incinerator are also attached (Attachments C & D). Permitting activities have been initiated (see following response) and are expected to be an on-going activity throughout the project.

5. The Laboratory has had several interactions with NMEID on the planned course for permitting the new incinerator (see Attachment E). In sum, we have provided the State with two options: the first is to treat mixed waste in the same manner as hazardous waste and apply for an operating permit after the system has been commissioned for low-level waste treatment; the second and preferred approach is to construct the incinerator as a low-level/mixed waste incinerator and meet the interim status requirements. The State has not yet responded to this letter but generally recognize the benefit of a proactive approach to managing mixed waste (other than storage). More importantly, there is an ongoing dialogue between the state and us in this nebulous area of mixed waste regulations and planning. Finally, operation of the rebuilt TRU unit for treatment of mixed waste does make sense and is incorporated in our planning as an interim measure until the new system comes on line.

JMP:LCB/jw