

CHARGE NUMBER: 1802  
PROGRAM TITLE: EXPANDED RKS  
PERIOD COVERED: June 1 - July 1, 1971  
DATE OF REPORT: July 1, 1971  
WRITTEN BY: R. N. Thomson

The RKS evaluation program has been divided into three areas of study:

- (1) Characterization of Raw Materials
- (2) Tower Development and Evaluation of Water Expanded RKS
- (3) RKS Pilot Plant Facilities and Development

(1) Characterization of Raw Materials

Development work to date has indicated that the character of the RKS basic material is having an effect on the expansion characteristics and resultant product. As a result of this, eight grades of stem are being provided through the Leaf Department and Manufacturing. Each of the grades of RKS will be characterized in order to determine relative differences between RKS or stem in different stalk positions in the plant. A complete chemical and physical characterization will be made on these stems in addition to process studies in the expansion tower. In addition, we will be developing a mixture blend of stems which will represent PM's stem mix for use as the basic RKS material.

(2) Tower Development and Evaluation of Water Expanded RKS

Experiments are to be conducted utilizing eight different grades of bright RKS in the 3" tower. The effects of cuts/inch on expansion of each grade of RKS will be measured. In addition, the effects of tower temperature, gas velocity, steam to air ratio, product input moisture and product throughput on expansion will be measured. The results from these experiments should be available within the next 6-8 weeks.

2022147702

(3) RKS Pilot Plant Facilities and Development

Consideration has been given to the development of an expanded RKS pilot plant in the Bells Road Warehouse area. Cost estimates for capital equipment and building modifications for this plant have been developed. However, an alternate plan has been proposed to use "G" building as a dual system for both expanded tobacco and expanded RKS. This requires modifications to both the 8" tower and the "G" building floor plan to include additional space and equipment. It is proposed to utilize a second shift for the RKS operation.

Considering the lower cost and shorter time to accomplish the "G" building proposal, it has been decided to utilize this route for the development of the necessary RKS basic data. A schedule for this appears to be as follows:

- (1) Extension of "G" building - August 1-8.
- (2) Installation of RKS equipment - August 8-15.
- (3) Initial RKS line operation - August 15 - September 1.

SUPPORT STUDIES

A. Radiant Belt Expansion of RKS

The RKS expansion experiments by radiation resulted in a 16% volume increase as measured by the acetone method and a 126% increase, on the same sample, as measured by the cylinder method. All test runs were made on very primitive equipment. A modified belt/radiation system will be installed during the first week of July.

B. Subjective Evaluations

The 3 1/2% - 4 1/2% expanded RKS Marlboro type models showed no subjective differences from their controls on the parameters tested. Analytical data show a reduction in tars, nicotine, water, puff count and static burn.

A 10% expanded RKS Marlboro type model (replaced 3 1/2% RKS and 6 1/2% RCB) was found to be subjectively different from its control. The tendency is for the RKS cigaret to be judged milder. Delivery of the cigaret was 16.1mg FTC Tar and 1.07mg nicotine.



R. N. Thomson