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CEM

Interoffice Communication

To R. A. Frohreich, Conoco Chemicals, Aberdeen
From C. H. Griffis, Chemicals Research, Ponca City
Date April 30, 1979
Subject ABERDEEN REACTOR OPENING LOSS TEST RUN

Based on phone conversations with Jimmy McCrimon, the test run can be scheduled for May 7. The test run is currently scheduled to begin May 7 and conclude May 12. Ten (10) batches from D-400 will be tested in this time. The test run schedule, which has been previously discussed, is described in detail below.

There are two main objectives for the test run:

1. Determine whether steam purge during and/or after dump is successful in reducing opening losses.
2. Compare several methods of sampling reactor headspace to determine alternate methods to EPA Test Method 106.

Run Schedule

The run schedule is listed on Table 1. Runs 1 and 6 are standard runs, that is, no steam purge during dump or after dump. Runs 2 and 3 will maintain steam pressure during dump and purge after dump. Runs 4, 5, 7, 8, 9 and 10 will maintain steam pressure and purge during dump. Approximate steam flow rates required are footnoted in Table 1.

Sample Schedule

Slurry and vapor samples are described in Table 2. Slurry samples will be taken at the beginning, middle and end of dump from the reactor. Vapor samples include: heated bombs, HNU, OVA, and gas syringe samples from the air ejector and EPA Test Method 106 samples.

Equipment

R&D is providing the heated box and sampling bombs for the heated bomb sampling. R&D is also providing the air ejector. This equipment is being shipped to Aberdeen April 30 and should be installed as soon as possible. Designs for the steam injection line, desuperheater system and sampling systems have been issued under a separate cover by Larry Harms of Process Engineering. These designs detail the necessary piping modifications to be done by the plant. The plant will coordinate instrumentation and piping installation with assistance from R&D as required. The plant will construct the EPA 106 Test Method equipment, with assistance from R&D as required.

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Manpower

Manpower requirements for the test run are listed at the bottom of Table 1. R&D will coordinate the test run and observe control room operations. Two plant people will take slurry samples and control steam flow during dump and purge. R&D will sample reactor vapor space with assistance from the plant people as required. The plant will also analyze the reactor vapor space samples and slurry samples.

Data sheets and more detailed run schedules will be issued next week. Please notify me of any delays in starting the test run.

C. H. Griffis

C. H. Griffis
Research Engineer
Engineering Research Section

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Attachment
CC:
JHMc WRF LKH GJH AJLu CLM
ELK JEB JMc FK DJR

TABLE 1

ABERDEEN REACTOR OPENING LOSS TEST RUNRUN SCHEDULE

<u>Run</u>	<u>Maintain Steam Pressure During Dump (1)</u>	<u>Steam Purge During Dump (2)</u>	<u>Steam Purge After Dump (3)</u>
1			
2	X		X
3	X		X
4	X	X	
5	X	X	
6			
7	X	X	
8	X	X	
9	X	X	
10	X	X	

Staffing: Control Room 1 man R&D Coordinator
 Steam Regulator 1 man Plant
 Bomb Sampler 1 man R&D Analytical
 Lab 1 man Plant
 Slurry Samples 1 man Plant

(1) 3000#/hr of steam should be required to maintain a positive reactor pressure.

(2) 6000#/hr of steam should be required to maintain a 3 psig reactor pressure.

(3) A five-minute purge at 4000#/hr of steam should theoretically reduce the vapor space concentration by 95%.

TABLE 2

ABERDEEN REACTOR OPENING LOSS TEST RUNSAMPLE SCHEDULESlurry Samples

Slurry samples will be taken at the beginning, middle, and end of dump on every batch.

Sample Bomb, Ejector¹ and EPA 106 Samples

Run	BOMB AND EJECTOR					EPA 106
	<u>Before Dump</u>	<u>During Dump</u>	<u>After Dump</u>	<u>After Steam Purge</u>	<u>With EPA 106</u>	
1	X	X	X		X	X
2	X		X	X	X	X
3	X		X	X	X	X
4	X	X	X		X	X
5	X	X	X		X	X
6	X	X	X		X	X
7	X	X	X		X	X
8	X	X	X		X	X
9	X	X	X		X	X
10	X	X	X		X	X

¹Ejector samples are OVA, HNU and gas syringe samples taken from ejector exhaust during bomb sampling