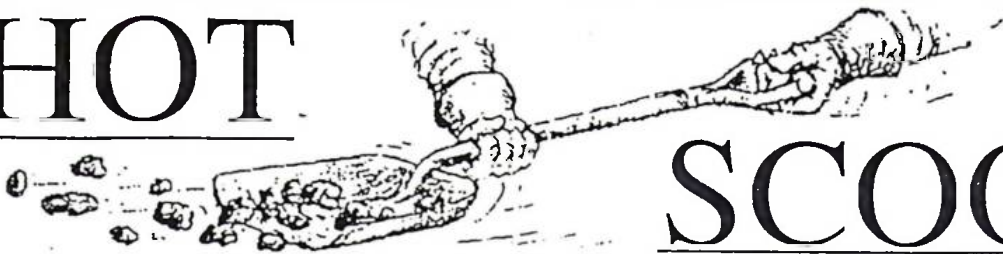


HOT



SCOOP

AUGUST 1991

VOLUME III, NUMBER 8

MESSAGE FROM THE DIRECTOR OF MUSEUM OPERATIONS - Barney Barnier

OPEN HOUSE: On August 8th, 1991 the Administrative Office at the Santa Fe Depot, along with the Museum Library will host an open house from 6:30 to 8:30 pm to introduce the membership and the public to our newest facility. All Hot Scoop readers are encouraged to attend, and meet the public. If you haven't been there, the office is in the southwest corner of the main passenger terminal building and the library is in the center bay of the baggage building on the Kettner Blvd. side.

CLEAN-UP: For the last several weekends, **NORM HILL** has been leading a general clean-up in and around the car shop. **CHARLES ALBAN** and **STEVE WADE** have been his main assistants, with help from everybody in the area. Please help this wonderful effort by assisting us in keeping the progress we have made.

R.P.O. CAR: Work is moving forward on this car, and we can use some more help. If you would like to be in on this call **TED KORNWEIBEL**, the new Restoration Superintendent. We also will need help renovating the trucks so the car can be re-trucked and moved into the Car Shop for work during the hot weather. If you can help, call **MIKE READING** the Mechanical Dept. Superintendent.

WOODWORKING SHOP: If you haven't been up to the Car Shop lately, make it a point to stop by and look at the beautiful woodworking shop nearing completion by **STEVE WADE**, with help from **CHARLES ALBAN** and the Facilities Dept.

MACHINE SHOP: This is the next major push for the Facilities Dept. with the intention of being able to support the Steam Team in the effort on the 2353. If you are interested in drywall, painting, or electrical work see **DON GETZ** or **BARNEY**.

VOLUNTEER OF THE MONTH

This month was an easy choice for me considering the tremendous amount of work done by **STEVE WADE** in the wood shop. Steve has been coming to Campo several times a week, and it shows! Thank you for going the "Extra Mile", and congratulations Steve.

MUSEUM DIRECTOR'S CORNER

Kay Carter

The Administrative Staff has been busy getting ready for the Open House at the Santa Fe Depot on August 8, 1991, from 6:30 - 8:30 P.M. I hope you were able to attend this event. Plans have been made to have the Santa Maria Valley Railbus on display as well as a restored Railroad Delivery truck owned by Jerry Windle. Our speeder will also be outside for all to enjoy.

Thanks to Open House Coordinator Corrine Gallagher, Jim Gallagher, Steve Wade, Mike Reading, Dan Williams of Chastain Signs, Dan Sexton of Starboard Development Company, Chop Kerr, Dan Marnell, Jimmy Hamill, Charles Alban, Bob Eikel, Barney Barnier, Bobbie Ringersma, Jerry Gilliam, Norm Hill, Art Sherman (and his son-in-law), and Carol Westover for their hard work and support. Additionally, I would like to thank Chuck Kovar of Cabo Cabo Grill in the Gaslamp Quarter for donating food to the event and Larry Husband of the Horton Grand Hotel for the table linens. Thanks, too, to everyone who donated or loaned railroad memorabilia to make the administrative offices more professional and exciting.

We have now been able to recover from the move and find ourselves in possession of an Apple Dot Matrix printer that we do not need. Should you have any use for this piece of equipment, please call the office at 595-3030. (Price is very negotiable.)

Please mark your calendar early for a Board/Staff Retreat. We have tentatively set aside Friday evening, September 13, Saturday, September 14 and Sunday afternoon, September 15 for a special weekend of planning. I know this is quite a time commitment for everyone. We are trying to secure Ray Crapo, consultant and editorial writer for Locomotive and Railway Preservation, as the facilitator for this important meeting. All it is going to take is confirmation of his schedule and financing to allow this to happen! We are currently working to secure a sponsor for the entire weekend. Details confirming the date and location will follow, and though somewhat premature, I wanted everyone to set aside the time, if at all possible. We will be working on the Strategic Plan for the Museum and all of its facilities at that time. Your attendance will be critical to the success of this Retreat. Mr. Crapo (not your Museum Director!) has dictated the amount of time necessary to work through the plans. His credentials for such an exercise are impressive and extensive. He brings a good perspective about other museums around the country and what has worked for them as well. I believe his input will be invaluable to our Museum.

SAFETY CORNER

Lew Wolfgang

Due to circumstances beyond our control, the Operations Orientation course has been postponed. I hope to resume the class early in September and I will notify those members who have expressed an interest in attending as soon as the schedule is known.

The following articles were taken from a computer network discussion of the trona train wreck at Muscoy, California a few years ago. I thought it interesting enough to share with you as it illustrates that accidents usually have multiple causes, and that frequently those causes are a lack of communication.

Muscoy Accident Discussion

May I also recommend the train wreck article in the New Yorker. Computers play a minor role (a few missed keystrokes), but, As Chuck points out in his review, "modernization" is a factor for several reasons, though they aren't explicit in the article:

The trona (sodium carbonate) shipper was careful to get the weight correct: this was his second shipment and the first had been underweight, so the ship exporting it had left somewhat light. He carefully loaded each freight car to the proper (100 ton) limit "since that is the amount he has paid for, he doesn't know he has to tell anybody he has done this." Each car then weighed 130 tons total.

Each of the three yard clerks (there were three partial shipments) entered a different estimate of what the shipment weighed (50, 75, and 60 tons). "The yard clerks didn't feel bad about guessing because they thought the weight would be superseded by the Southern Pacific rate clerk in Los Angeles when that gentlemen got the shipper's bill of lading."

Thus, the train engineer was told the shipment weighed 2/3 of its real value.

The clerk who wrote up the bill of lading didn't record the actual weight. Instead of hunting the shipper down, "he took a guess" (60 tons) and faxed the information to the rate clerk, who mis-keyed the data,

putting 129,000 pounds instead of 120,000 (which was in the right direction, but hardly enough to compensate for the other errors.)

"Here is a good thing that did happen -- but it did not make a difference. After all this mess of guess weights, wrong estimates ... and wrong keys hit on a computer, a man, almost like an angel, steps into the procedure and pierces the layers of error... Mr. Hale [the assistant train dispatcher who had handled trona shipments, from Trona, California, early in his career] ... looked at the transfer information ... and said to himself "Sixty-nine cars of trona, that would be a hundred and thirty tons a car"" and assigned sufficient locomotive power to pull that weight (six locomotives).

As the story unfolds, two of the locomotives had no dynamic braking (the engineer only knew about one) and the accident was a certainty. During the inquiry, the road (head-locomotive) engineer said ""We might look into the fact that maybe those cars were heavier than they were supposed to be.... I said that from the weight of that train on that profile to the number of cars we had to the tons per operative brake, I didn't see how that train could be that light. I don't know, I didn't question it, I never had any reason to question it before. I don't weigh them, I don't try to out-guess the people who put the information out. All I can do is assume that this information is correct, I don't want

to kill anybody... But if it's not correct, I can't operate and make decisions to handle a train like that unless I have the correct information. If I know what's going on.""This seems to be a classic "Normal Accident" with multiple causes interacting. Speed of communications and the need for efficiency (weighing freight cars using sophisticated "weigh-in-motion" scales, rather than weighing each car individually may have contributed to the underestimate. On the other hand, a person (Mr. Hale) who understood the problem was almost able to un-do the damage. Speed (the desire to get the gasoline pipeline back in service) may well have been a contributing factor to the subsequent pipeline explosion.

Once the train started down the Hill, there was no way to stop it...

Do these trains run with no normal air brakes on every car? Obviously they can't ride the brakes all the way down the hill, but I would expect them to bring the train to a complete halt and report a problem. There may be some crew error involved here.

Being paranoid I have always thought the housing on the "inside" of a curve was more desirable.

The implication here, that old mechanical scales are safe and new (presumably) computerized scales are dangerous, seems

far out of line with the facts presented. The crash occurred because the train was overloaded and because they only had half the braking capacity they thought they had, both bits of misinformation due to plain old poor operating practices, not fancy modern scales.

Hadn't the engineers noticed that the train took longer to get up to speed than expected; an obvious application of $F=MA$? Maybe you need scales to get highly accurate weights for the purpose of generating freight bills, but wouldn't a full 1/3 overload be noticed by somebody paying marginal attention to the throttle and the speedometer? Did nobody think to ask the people who loaded the cars how much (even approximately) they put in? And why assume the cars were 2/3 full? Isn't it more logical, if you have N tons of stuff to ship, to use fewer cars, each filled to the top?

Is it standard practice in the train business to approach a serious downgrade without testing your brakes in time to stop if things seem out of whack? Surely, with half the braking and 150% the mass expected, even the shortest, most rudimentary test would immediately show that something was seriously wrong, no? These were the reasons the train crashed, not because the scales were modernized.

: Laxness, not modernization, at fault in train wreck.

Regarding the train wreck at Muscoy, in which a train with 69 hoppers cars of sodium carbonate or "trona" lost control coming down Cajon Pass and derailed into a residential neighborhood (also damaging a gasoline pipeline, which doused the area with burning gas 13 days later):

In Volume 10 : Issue 55 Chuck Weinstock writes:

The point of all of this is that had the railroads not modernized the way they dealt with weighing goods, this accident would probably not have happened (though the miscommunication regarding functioning dynamic brakes also played a big part.)

Sometimes the old ways are the best ways.

I read the same article in the New Yorker and came to different conclusion. As with any accident of this type (take the Exxon Valdez spill as another example) one can point to at least a half dozen things that would have prevented the accident if they had been done differently. Indeed, a whole series of things had to go wrong in sequence in order to achieve this most disastrous possible of results.

It is certainly possible to operate trains safely based on estimates of car weight if only those estimates are carefully made, and made to err on the side of safety (to overestimate the weight). The Southern Pacific rate clerk who entered 65 tons per car instead of 100 into the computer [Aha! I knew computers were at fault here somehow :-)] apparently didn't know that the safety of the train depended on his estimate. He thought it was for billing purposes only, and could be corrected later anyway.

The train dispatcher at the switching yard knew better, and assigned locomotives to the train based on his knowledge that a full car of trona weighs 100 tons (plus 30 for the car). He didn't pass this information on to the engineer though. Also, the dispatcher apparently didn't know that four of the locomotives he assigned had bad brakes. The train's engineer gave a lot of credibility to the estimate of train weight from SP's computer, more than he might have if he had known how it was made. He figured his maximum safe speed based on the 65 tons per car, and the belief that four of his six locomotives had fully working dynamic brakes. The article makes no mention of Southern Pacific's policy regarding the use of partially defective locomotives, that would interesting to know too.

Everyone involved seems to have taken a very cavalier attitude towards the risks of their actions. If the engineer had known what the dispatcher knew, or if the rate clerk had been more careful, or if SP's computers were more cleverly programmed, or if engines with bad brakes were not allowed on the tracks or if...

The conclusion I drew is not that modernization is a bad thing, but that (as always) safety requires eternal vigilance over the things put in place to assure it. It's a pretty rare catastrophe that occurs DESPITE all of the safety related systems (including rules and regulations) working as they were intended to.

August 1991

SDRM CALENDAR OF EVENTS

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2 6:30pm Facilities - Kettner Blvd.	3 10:00am Library Work Day - Kettner Blvd. Train Crew
4 Train Crew	5	6 6:00pm Library Work Day - Kettner Blvd.	7 7:00pm Crew Testing - Kettner Blvd.	8 6:30pm MUSEUM OPEN HOUSE - KETTNER BLVD.	9 7:00pm Operations Meeting REPORT DEADLINE	10 10:00am Library Work Day - Kettner Blvd. Train Crew
11 Train Crew	12 6:30pm Staff Meeting - Kettner Blvd.	13 6:00pm Library Work Day - Kettner Blvd.	14 7:00pm Crew Testing - Kettner Blvd.	15 7:00pm Steam Meeting - 2552 Keerpark Dr/Rich Dick 276-2222	16	17 9:00am Steam Day - Campo 10:00am Library Work Day - Kettner Blvd. Train Crew
18 Train Crew	19 7:00pm Mechanical Dept. Meeting	20 6:00pm Library Work Day - Kettner Blvd.	21 7:00pm Trainmen Guide Class/What is a Museum/ Kettner	22	23 6:30pm Trainmen Guide BBQ - Mike Retz	24 10:00am Library Work Day - Kettner Blvd. Train Crew
25 Train Crew	26 6:30pm Staff Meeting - Kettner Blvd. HOT SCOOP DEADLINE	27	28	29	30 7:00pm Interpretation Dept. Meeting - Kettner Blvd.	31 Train Crew

SDRM MUSEUM DEPARTMENT HEADS

Museum Office

1050 Kettner Blvd.
San Diego, CA 92101
595-3030

Phone Numbers

Museum Phone (Recorded Message)	697-7762
Business Office (Bobbie Ringersma)	595-3030
La Mesa Depot	465-8444
Campo Depot/Gift Shop	478-9937
Campo Car Shop	478-9917
Campo Caretaker	478-5301
Museum Director	265-7682
Director of Museum Ops	271-1197
Facilities	465-985
Mechanical Dept	277-5168
Operations Dept	466-5402
Restoration Dept	461-0098
Museum Services	941-1397
Interpretive/Exhibits	447-3297
Steam Department	943-7161
Safety Officer	553-3106

Facilities meeting first Friday of each month. DON GETZ

Interpretive Committee, last Friday of each month. RICH BORSTADT

Steam Work Day, third Saturday of each month. ROBIN BECKER

Steam meeting, Thursday preceding Saturday work day.

Operations meeting, second Friday of each month. MIKE RENEAU

Hot Scoop subscriptions: San Diego office, Bobbie 595-3030