

MINUTES OF THE MEETING OF
THE SYMBOL STANDARDIZATION SUBCOMMITTEE
Los Angeles, California
March 4, 5 and 6, 1973

The Symbol Standardization Subcommittee of the Ad Hoc Committee on a Uniform Grocery Product Code held a series of meetings in Los Angeles, California, on March 4, 5 and 6, 1973. A list of those attending is attached.

The meeting on March 4, 1973, was held in the Florentine Room of the Biltmore Hotel in Los Angeles for regular members of the Committee and observers only. Eric Waldbaum, Vice Chairman, called the meeting to order at 3:05 p.m.

Larry Russell began by outlining a proposed agenda for the three days of meetings. The purpose of the three days of meetings is to attempt to bring the entire project together so that the best recommendation can be made at the end of March. In addition, there will be presentations by the Paperboard Packaging Council and the National Flexible Package Association. The Singer Company will present some modifications of its proposals, and RCA wishes to make a presentation about printing costs.

The Committee then spent some time allocating the remainder of the meeting time so that all could be accomplished.

In Larry Russell's view, the Committee had three basic decisions to make at this meeting: (1) Shall there be a symbol or not; (2) If so, must it be located on the natural bottom of all products; and (3) Can the Committee reduce the alternatives so that the final choice is a rational one.

The Committee next conducted a key document review so that all members would be sure that they had the basic documents necessary to arrive at a decision. There was a consensus that the key documents include at least the following: (1) the print specifications for the candidate symbol (the basic seven, plus Anker, Dymo, the second Charecogn proposal and Data General); (2) the Modified Symbol Evaluation Process; (3) the decision logic; (4) the Battelle test results; (5) PIDAS I and II; (6) the package of materials from Pitney Bowes-Alpex; (7) the Part I and Part II McKinsey presentation (to be made at this meeting); (8) the Singer summary of its Battelle tests; (9) the up-dated spread sheet; (10) the Operating Principles of the Committee; (11) the Zellweger materials submitted to the Committee in January; (12) the David Savir document from IBM; (13) the RCA comments on the IBM proposal; and (14) the legal opinion letter from Steve Brown to Burt Gookin.

At this point in the meeting, Steve Brown suggested to the Committee that minutes of the February 12 meeting, and this meeting be limited in circulation to regular members only. The Committee accepted this recommendation and further stated that the minutes should reflect the fact that all minutes were informal, unofficial and informational. The minutes are an abbreviated report, taken by a non-scientific layman, condensing highly technical presentations and discussions. While they report the essence of the meeting accurately, they could be incorrect on some

specific details which the Committee might wish to correct if the minutes were to receive wide circulation.

Rick Thatcher next gave a summary of the Battelle test results. This summary is in the files of the Committee. Basically, none of the systems tested have presented any real surprises to Battelle. The Battelle report includes data on both the engineering limit tests and the productivity tests. The engineering limit tests include tests of: scanning speed; depth of field; tilt/skew; "scuff," oversized lines; voids; extraneous ink; and edge roughness.

At the conclusion of the Battelle report, the meeting adjourned at 7:30 p. m.

The March 5 meeting of the Symbol Standardization Subcommittee was held in the auditorium of the Crocker National Bank Building in Los Angeles, California. Chairman Alan Haberman called the meeting to order at 8:50 a. m. and reviewed with the Committee the revised agenda for the day's meeting.

Murray Eden and Bill Galt reported to the Committee on their visit to the Zellweger installation in Switzerland. It is an impressive facility. Murray believes that the most important factors now are printing costs, side scanning, and label real estate. Bill Galt has some questions about the capability of the Zellweger in-store printer.

Next Steve Brown brought the Committee up to date on the various legal issues confronting the project, including patent policy, negotiations with the FTC, and the current potentialities of attack from private sector.

Tom Wilson reported to the Committee on a letter from the NRMA asking for coordination of effort. This letter did not reflect any of the prior meetings which have been held with NRMA. McKinsey will meet with the NRMA liaison committee and Tom read to the Committee a proposed response by Burt Gookin to the NRMA letter. There is some feeling that the NRMA letter is more of a statement for the record than a reflection of a new concern.

The Jewel Company has released two letters in the past week -- one to SMI and one to NAFC -- which take the position that they favor the UPC but have seven questions about the efforts underway to date: (1) the ten-digit code will not stand the test of time; (2) manual entry is not a reasonable alternative; (3) if 75 percent is the amount of source marking required for the total industry to break even, the lack of compatibility with other codes is significant; (4) they question the feasibility of increasing the size of the code at a later date; (5) the logic of a ten-digit code is based on technology no longer relevant; (6) basing a decision on 1970 and 1971 technology means that the code will soon be obsolete; and (7) the total industry savings figures need reconsideration in light of the above.

The Jewel letter concludes that work on the project should stop, an industry agreement should be reached on a twelve or more digit structured code before proceeding further, that additional efforts should be coordinated with all retailers, and finally, that such an effort requires a strong non-partisan leadership, for example, the President's Commission on Productivity, led by people who do not have financial stake in the outcome.

Chairman Haberman pointed out that no good effort has ever come to fruition without substantial opposition and the Committee should be aware that there will be other challenges to its activity.

At 9:35 a.m. the consulting members joined the regular members of the Committee for the meeting. Chairman Haberman welcomed Richard Daitch of Chatham Supermarkets as a new consulting member, and Steve Brown reviewed the Operating Principles of the Committee with him.

The various consulting members then reported on the status of their tests. The El Rancho store test is behind schedule, in part due to delay in receiving the scanners from Germany. The current prognostication is that the scanners will be installed the 25th of March. Currently, there is one scanner in the store in California for training purposes. El Rancho's best estimate is that in-store labeling costs approximately \$1.80 per thousand. Kroger is still testing, and still evaluating the test data. Acme is working toward a test, while Chatham is upgrading the ECR's and believes it would

be premature to give a prognosis. Training in the Chatham store will begin on March 12.

Larry Russell next briefly gave a status report on the product code project. He reported that the cost feasibility study is all but complete and that source marking costs are approximately five times what they were before. The Battelle tests are also essentially complete, and a summary of the results will be given. Various individual members of the Committee have been working with various equipment companies about the alternatives possible and there have been new symbols proposed by Data General and Anker/Plessey.

Ed Ulmer of Singer Corporation presented a film on their Mark I Scanner, the device which was used in the Battelle test. He emphasized that the system was not human engineered, nor was it engineered for production. He also stated that Singer hopefully will now propose three different sizes of symbols, which he hopes will eliminate the need for quality control in printing. He emphasized that all technologies can read the Singer symbol.

The Committee next heard a presentation by the Paperboard Packaging Council and the National Flexible Packaging Association. The presentation was led by Mr. Feeny of International Paper Company. The Paperboard Packaging Council and the Flexible Packaging Association had formed a Committee to study the symbols and the problems associated with them.

The PPC and NFPA felt strongly that it was not now technically feasible to achieve the required tolerances as set forth in the various proposed symbol specifications, and it was their recommendation that the tolerances be in the form of guidelines until the printing industry develops sufficient capability to print the tolerances. They also suggested that bottom printing not be mandatory. From the standpoint of the printing industry, a linear bar code is preferable to a circular code.

Both the PPC and the NFPA suggested that a committee be created to develop printing specifications and both suggested that they have representatives on the committee.

Following this presentation and a dialogue between the Committee and the PPC-NFPA, the Committee directed that the minutes show its deep appreciation for the work of the PPC and the NFPA and other organizations who have cooperated so well with the Committee. The Committee will be much assisted by this work and will consider carefully the points made by the PPC.

Larry Russell next reported on the results of PIDAS II. He emphasized that the sample was very small and that the tests were done without process controls.

Battelle next reported that on the basis of its analysis of printing that the printing capabilities of the various symbols may be higher than many people expect.

Tom Beshaw of RCA next gave a report on the printing tests done by the RCA Corporation. RCA is very encouraged by the results of its printing study. At this meeting, Mr. Beshaw announced that the tolerance on the RCA bullseye can be eased to plus or minus three mils from plus or minus two mils. He reported that, at the Committee's suggestion, RCA had done some tests on a half bullseye. The results of these tests show a substitution error rate equivalent to that on the full bullseye.

Rick Thatcher presented an overview of the Battelle tests. The Battelle tests were of two types. Tests on engineering limits and tests on productivity. Generally speaking, so far none of the systems tested have supplied any surprises. The tests are not totally completed, however.

At this point in the meeting, the representatives of equipment companies and printers and packagers were excused.

Larry Russell next made Part I of the McKinsey presentation summarizing the project to date. At the outset, he stated that, in his opinion, the three major purposes of this meeting were: (1) to finalize the decision on whether or not to adopt a standard symbol; (2) to decide on the location of the symbol; and (3) to reduce the alternatives facing the Committee.

The base case numbers for the front end seem to have held up. The C_1 number probably has to be modified to reflect the possibility of side marking.

Equipment cost estimates range from \$50,000 to \$250,000 per \$60,000 a week store.

It appears as if the total industry savings are in the range of \$80 million to \$360 million.

Larry next reported on the results of the feasibility study. The on-going costs of symbol application increase significantly when the overhang material is included. It is, therefore, the conclusion of McKinsey that bottom marking cannot be economically justified for cans, glass, plastic bottles or milk cartons.

His conclusion is that store level savings are significant if a 50-75 percent source mark can be achieved quickly. It is his further opinion that the soft savings are at least the equivalent of the hard savings, and that side marking of cans, glass, plastic bottles and milk cartons does not significantly reduce the store savings.

At this point, Alan Haberman moved and Bill Galt seconded the following resolution, which was unanimously adopted by the Committee:

"WHEREAS THERE HAS BEEN GREAT CONCERN THROUGHOUT THE GROCERY AND EQUIPMENT INDUSTRIES OVER THE LOCATION OF A SYMBOL ON PACKAGES AND THE PROBLEMS ASSOCIATED WITH THE LOCATION OF THE SYMBOL.

THEREFORE, BE IT RESOLVED THAT THE SYMBOL STANDARDIZATION SUBCOMMITTEE INTENDS TO RECOMMEND TO THE AD HOC COMMITTEE THAT THE GUIDELINES FOR SYMBOL APPLICATION SHALL

PROVIDE FOR NO REQUIREMENT THAT THE SYMBOL BE LOCATED ON THE BOTTOMS OF CANS, GLASS, PLASTIC BOTTLES, MILK CARTONS AND THE LIKE, AND

BE IT FURTHER RESOLVED THAT IN VIEW OF THE INDUSTRY CONCERN, THIS DETERMINATION BE PUBLICIZED AS QUICKLY AS POSSIBLE AND IN ADVANCE OF THE SYMBOL DECISION. "

At 4:00 p.m., the consulting members were excused from the meeting.

Making his presentation only to the regular members of the Committee and consultants, Larry Russell continued with Part II of the McKinsey summary, dealing with which symbol should be selected and how to implement this decision.

His presentation was in two parts, reflecting two different decisions that must be made: (1) on the encodation solution, and (2) on the geometry or format of a symbol.

The Ad Hoc Committee wants to be sure that any final decision is implementable promptly.

The MIT experts agree with the implicit rejection of alternative methods of pattern recognition. Only one basic scanning technique and two variations have been proposed. The two-dimensional variation (preferred by MIT) has been proposed by Singer, Charecogn (second proposal), and Scanner.

Capability for multi-number sets is an absolute essential in the code and it may be that up to six number sets are required.

McKinsey recommended that several solutions be kept in contention for a final vote on March 30, 1973, and have McKinsey modify its presentation to show interested equipment companies.

Ed Ulmer returned to the meeting at 5:30 to respond to questions of the Committee about the Singer proposal.

The meeting adjourned at 6:05 p. m.

On Tuesday, March 6, the regular members of the Symbol Standardization Subcommittee met in the McKinsey & Company offices, Los Angeles, California. Chairman Alan Haberman called the meeting to order at 9:15 a. m.

He first reported on his visit to the El Rancho test store the preceding evening. He reported that the equipment was having some difficulties, perhaps connected with the shipment that had been involved. The cash register itself is packaged very nicely. El Rancho is having some difficulty with price marking, and their consumer education material is very complex. The checkers appeared to work very efficiently.

He stated that the purpose of today's meeting was basically to shake down the symbol alternatives facing the Committee.

Fritz Biermeier posed the question of why so much activity is proposed for the month of March. Larry Russell responded that the

reason for this is two-fold: One to make sure that what happens on April 3 is what you expect; and two, to make sure that what happens April 3 is technically acceptable.

Larry urged the Committee to consider as part of its decision process the capacity for variable length codes. It is Larry Russell's opinion that there must be completed specifications by March 30.

It is his opinion that it is a reasonable assumption that major chains will implement on private label merchandise quickly. This will act as an encouragement to manufacturers to source mark all of their products.

John Hayes pointed out that a number of companies will be making label changes this year to accommodate the new FDA labeling requirements and so might be in a favorable position to begin source marking.

There was next discussion of whether or not the symbol should be capable of handling a code longer than ten digits. There was considerable discussion on this point, with the consensus being that the code was ten digits, but that it would be desirable if the symbol were capable of handling ten or "n" digits. Such a recommendation hopefully will have the effect of meeting some of the challenges raised by Jewel and the NRMA.

There was next a discussion of the possibility of equipment companies entering the marketplace with equipment to read whatever symbol is selected. It was the considered opinion of the Committee that there would be several companies who would be in the marketplace.

Fritz Biermeier stated his belief that the macro-economics are unacceptable and, therefore, something must be done to reduce the printing costs. The figures are probably inflated, but they are the best we can get. The suggestion was made that a risk factor should be assigned to the cost figures. Others raised the question of whether or not a variable size symbol would be a way to reduce printing costs.

It was also noted that the PIDAS may have produced too much detail rather than not enough. The suggestion was made that some PIDAS samples be sent to RCA for evaluation.

The Committee next took a poll on the issue of a variable size symbol. Barry Franz viewed it as a necessary, John Hayes as an advantage, Bill Bonner declared that it was an advantage and that if it reduces the printing costs, it is a necessary, Bob Tripp viewed it as a necessary, Eric Waldbaum as a necessary but not enough, Alan Haberman had no position, Fritz Biermeier believed that it had value in solving the printing problem, Bill Galt said that it looks like a necessary, Murray Eden suggested that different discrete sizes might be better than variable sizes, Steve Linn took the view that it was a necessary, John Langan that it was a good idea, Tom Wilson that it was politically desirable, Rick Thatcher believed that at least discrete sizes were essential, and Larry Russell favored variable sizes.

There was a discussion that a desirable solution was one whereby multiple symbols could be read simultaneously. It was believed that manufacturers can solve this problem, but at a cost.

It was also pointed out that federal standards may make laser technology obsolete and the Committee emphasized that people concerned with the UPC project should be doing something to make the laser standards livable. A part of any final report must be that any symbol chosen must be readable by a system that is within the Federal Laser Guidelines and should not include a requirement of a safety warning at the checkstand.

However, test results to date indicate that the incandescent light source devices might have problems in readability.

The Committee next discussed the various encodation possibilities as outlined in the McKinsey & Company matrix. The Committee discussed each encodation possibility in detail.

There are essentially four different geometries that have been proposed -- the wraparound bar code, the square bar code, the two-field bar code, and the omni-directional code.

While a circular symbol assures the best chance of quick implementation, a circular symbol currently is harder to print. Most companies believe that the IBM square bar code geometry is best or second best. After considerable discussion, the Committee left as possible acceptable solutions an IBM two-field square bar code solution, a Litton semi-

circular bullseye solution, a Litton one-field bar code solution, and the Singer two-dimensional format.

McKinsey was instructed to discuss with various equipment companies some of the nuances involved in the final decision in order to obtain the necessary input for the final meeting.

The meeting adourned at 7:30 p. m.

Respectfully submitted,

Stephen A. Brown
Assistant Secretary

Symbol Standardization Subcommittee Meeting
Los Angeles, California
March 4, 5 and 6, 1973
Attendance List

Regular Committee Members

Alan Haberman	Finast
Eric Waldbaum	Greenbelt Consumer Services
Barry Franz	Procter & Gamble
Fritz Biermeier	Red Owl
John Hayes	H. J. Heinz
Robert Tripp	Winn-Dixie
Steve Linn	General Foods
William B. Galt	Del Monte

Consulting Members (March 5 only)

Robert Cottrell	Kroger
Bernie Brinkman	Kroger
William Gearhart	Acme
Richard Daitch	Chatham
Kenneth Stapp	El Rancho

Advisors to the Committee

Thomas Wilson	McKinsey & Company, Inc.
Larry Russell	McKinsey & Company, Inc.
Stephen Brown	Counsel
William Bonner	Finast
Murray Eden	MIT
Rick Thatcher	Battelle
Rex Jones	Battelle
Donald Martin	Distribution Number Bank
John Langan	Distribution Number Bank