



YEAR 2000

Governor's Task Force on Year 2000 Readiness

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Governor's Task Force on Y2K Preparedness Transportation Sector Status Report September 17, 1999

Overview

The Transportation Working Group within the Governor's Task Force on Year 2000 Readiness was charged with the responsibility of assessing the readiness of the state's freight delivery systems as well as the food supply chain. Our group members included representatives from the trucking, rail, aviation, and grocery businesses. Within this segment there are technologies being utilized that were functioning at the beginning of this century right along side of systems so sophisticated as to be unimaginable just five years ago.

Primarily, the group was concerned with the ability of those involved in the freight deliver system to deliver essential commodities i.e., food to the consumer and coal to the power companies. We tried to answer the basic question, "Will I be able to go to the grocery store on January 1, 2000 and buy food?" Likewise, the power companies want to know, "Can we depend on the railroads to provide us the coal we need to produce our power?" while the railroads are asking, "Will the power companies be able to supply us with the electricity we need to run our operations?" We can report with a high degree of confidence that the answer to all of these question is YES. Trains and trucks will roll (safely), planes will fly (safely) and, barring panic buying which this taskforce hopes to help prevent, food will be on the shelves of grocery stores.

Almost without exception, each of the segments within our group reported that they were on schedule in their Y2K preparation but that they were concerned about the state of readiness of their upstream or downstream customers or suppliers? In addition to the encouraging overall news coming out of this group, a significant side benefit was that each member seemed encouraged by, even impressed with, the state of readiness of the other. The group offered its participants a forum to exchange concerns (and possible solutions) about problems in and out of each participant's field of influence.

Like all responsible Y2K evaluations, our examination looked into the four elements of Y2K preparation; identification of problem areas, remediation, testing, and contingency planning. The contingency planning aspect seemed to come not so much from, "What happens if our system breaks down?" but rather, "How do we cope if their system breaks down?"

It is not the conclusion of this group that there will be no problems associated with the Y2K rollover but rather that they will be minor at worst and certainly manageable in any case. All of our members reminded us that behind every device that might or might not be Y2K compliant, there is a human being trained and paid to make safe and rational decisions.

Trucking

The trucking industry can be characterized essentially by three sizes of companies; small "mom and pop" companies which have only a few trucks and serve a local market, medium-sized companies which are regional in nature, and large companies that serve the entire country. As might be expected, the vulnerability of each company to Y2K issues is almost directly proportional to their size. The larger the company, the more sophisticated their operation and hence the more vulnerable they are to computer problems.

At one end of the spectrum are the large companies which rely heavily on computers for dispatching, freight handling and inventory, shipment tracking, maintenance and repair, accounts receivable and payable, and numerous other functions. At the other end of the spectrum are the small companies whose small fleets can be run effectively with little or no computer help.

As might be expected, the more vulnerable any company is to Y2K-related breakdowns, the more likely they are to be working on the problem and on contingency plans. The large national trucking firms that participated in our group reported extensive preparation for Y2K. Most remediation plans were on or ahead of schedule and none of those companies expressed any concern over their ability to operate save for the common concerns (see below).

Our group found little reason to be concerned about the Y2K preparedness of the smaller trucking companies. Even to the extent that they use computers for bookkeeping, billing, and the like, even a worst case failure would be easily overridden manually and it is unlikely that there would be any interruption of critical commodities to market. Small carriers have the same upstream and downstream concerns of the others.

As for the regional (mid-sized) carriers, we were unable to find any representatives who would come forward and participate in the group. Industry representatives, however, indicated that these companies were dealing with the situation in a reasonable and prudent manner. While we weren't exactly pleased with those assurances, we could not conjure up a scenario whereby Y2K problems would materially effect a mid-sized firm's ability to perform its critical mission. Y2K failures would not affect a mid-sized company's over-the-road capabilities and dispatching could be done manually, over the phone.

All of the carriers, regardless of size, expressed the same sentiments, "We're going to be OK, what

we're really concerned about is, will our customers have goods for us to pick up and deliver, will the phones and power be working so we can do our business, will we be able to buy fuel, and will necessary government services be working? " Hopefully the other groups within this taskforce will be able to answer those questions to the truckers' satisfaction.

There is a rumor about the Bendix and Kelsey-Hanes brake systems. The rumor has it that at the stroke of midnight, all the trucks on the road will not be able to stop. The truth is that while that system may or may not be Y2K compliant, even if it is not, the part of it that is Y2K sensitive can be overridden by the driver in a matter of seconds by removing a specific fuse. The trucking members of our group assured us that they have looked into the issue and that they are assured that the systems have a fail-safe back up. In short, there is no need for concern.

Rail

The state of the rail industry in Colorado is much easier to analyze, owing to the fact that there are essentially only two carriers in the state - the Burlington Northern/Santa Fe and the Union Pacific. Both railroads have been working on the Y2K issue for many years and claim that all of their systems have been remediated and are compliant.

Both lines have major Y2K compliance project underway and each has its own web site. The Union Pacific's is www.uprr.com/y2k and the Burlington Nor-their's can be accessed at www.bnsf.com/about_bnsf/html/year_2000_project

It should be noted that many, if not a huge preponderance of, the safety equipment associated with railroad operation (such as crossing gates) were in place years before anyone had even dreamed of a micro-chip. These devices are electro-mechanical and do usually require an outside power source. Railroads, however, are used to dealing with power failures and have contingency plans that include disbursement of generators where needed. We were slightly surprised to learn that a spokesman for one of the railroads was not able to tell us whether the default position of a crossing gate (in case of a power failure) was up or down.

Illustrative of our economy's interdependence, and a recurring theme in this study, is the fact that the railroad industry is confident of its ability to function but has concerns about the industries on which it depends as suppliers and as customers. For example, while the power industry is worried about the ability of the rail industry to deliver the coal it needs to operate, the rail industry is worried that some of the smaller, less sophisticated, power companies may not be able to supply the power it needs of operate its lines efficiently and safely. This symbiotic relationship engenders a great deal of cooperation which will continue up to and through the Y2K event.

Regarding safety, however, industry spokesmen pointed out to us that under any scenario, worst case or otherwise, the railroad would not operate under unsafe conditions and would, if the situation called for it, shut down the whole railroad.

Air

The aviation industry has four basic components, the airlines (and airplanes) themselves, air traffic control which is the responsibility of the Federal Aviation Administration (FAA), field operations (runway lights, maintenance, clearing, etc.), and passenger and freight operations.

Air Traffic Control systems which are the responsibility of the FAA appear to be at or near a satisfactory level of Y2K compliance. On the night of April 10, an exhaustive test of the in-flight control system was field tested for Y2K compliance. A member of the Transportation group was on hand to witness that test. Regarding that test, the *Rocky Mountain News* reported, ' "There is very little risk with date processing" in air traffic control systems, said Jim May, the FAA's Y2K test manager. "We have felt that all along." He said he believes the problem has been exaggerated. "We've gone through a great deal of testing and a great deal of manpower to pretty much prove to the world what we knew all along, that there's not a lot of risk to our system," May said.' "

Accordingly, the group was well satisfied with the FAA's apparent ability to handle to switch over effortlessly and without any disruption or safety concerns.

As to the airlines themselves, we gave close attention to United Airlines and Frontier Airlines owing to the fact that between those two, they handle a vast majority of all passengers in the state. Their most-recent reports can be seen in the addendum.

As for the other airlines, the group is confident that similar efforts are underway and sees no reason for concern. Like the railroads, the airlines first emphasis is on safety and none will begin any flight without the utmost confidence of all involved that it will have a happy and safe landing. The notion that planes will be falling out of the sky at midnight, December 31 is alarmist and illogical.

Ground operations at the largest airports around the state, particularly DIA, are being analyzed, remediated, and tested. Representatives from the City Of Denver and the City of Colorado Springs both served on our committee and reported that their programs were on or ahead of schedule.

Food Distribution

Since food is obviously one of the basic necessities of life, it stands to reason that much of the Y2K concern and fear mongering would be revolving around its availability. Representatives from the King Soopers chain as well as trade group representatives for the industry in general were part of our group. It is our studied conclusion that any food shortages experienced around January 1 will be a result of panic buying and hoarding, not in any sort of breakdown in the system itself. In the event that

such shortages do occur, they will be spotty and short-lived.

Like other industries, Y2K vulnerability is directly proportional to the size and complexity of the business. Likewise, the more complex the system, the more attention the various food stores and chains seem to be devoting to the problem.

As mentioned, King Soopers (and their contractor) participated in our group and were able to report to us first hand what they are doing in preparation for Y2K. We can report that they are taking the situation quite seriously and are going to extensive measures to make sure that their whole system will be functioning properly. Like others, their preparation is now to the point where they are confident of their ability to operate normally and are starting to turn their attention to their suppliers to make sure that they can fulfill their missions. King Soopers did inform us that they are trying to anticipate a higher than normal demand on certain kinds of items, such as bottled water and canned goods, and stock for them accordingly. In addition, they took a step which suggested to us that they had given the problem a lot of thought. Each King Soopers store has a default order in with their warehouse which, in effect, says, "If communication goes down or you don't hear from us by a certain time, here is what we want delivered on our first order of 2000." That degree of planning gave us a large amount of comfort. The representative from the grocers trade group told us that the other large grocery chains were, likewise, well prepared but we got no independent confirmation from them on that.

The state of readiness of the small and/or independent rural and inner city grocery stores is of some concern to us. However, it is unlikely that these stores rely heavily on complex computer systems for stocking, re-order, customer check out or for any other reason. Our biggest concerns relating to them center around their ability to be re-stocked and panic buying. The food industry representative in our group was so impressed with the King Soopers approach that she intended to take it to the smaller members of her association. We will continue to monitor this segment of the food industry.

Conclusion

It appears that from one end on the distribution chain to the other, the larger companies with the most to lose are the best prepared. We do not anticipate any major disruptions in the supply chain. The major grocery stores will be well-stocked and any interruptions or shortages will be short in duration. We believe that the best advice is that given by the American Red Cross (www.crossnet.org/disaster/safety/Y2K.html) which is to prepare for this event as if you are preparing for a hurricane. Specifically, it is always prudent to have a 72 hour supply of critical need items.

ADDENDUM

UNITED AIRLINES STATEMENT OF READINESS

Current Status (as of March, 1999)

The Company, like most corporations, faces potential problems if software applications, computer equipment and embedded computer chips fail to recognize calendar dates beginning in the year 2000. The Company has developed a five-step process to achieve Year 2000 readiness: Awareness, Inventory, Assessment, Remediation, and Testing. Awareness consists of the initial recognition that a program, system, or device could be date-sensitive and susceptible to malfunction. Inventory refers to the identification and documentation of all such programs, systems, and devices. Assessment refers to the evaluation and determination of what course of action should be taken with respect to a specific program, system or device. Remediation refers to the corrective action taken, such as repairing or replacing, to avoid malfunctions. Testing consists of all activities undertaken to gain assurance that the remediated program, system or device will function as expected for dates after 1999. The Company has established a Year 2000 Program office to oversee this process.

The above-referenced five-step process is being applied in four major areas. The first area consists of the information systems maintained and supported by the Company's Information Services Division, collectively referred to as information technology or "IT" systems. The IT systems include, among other things, (1) the hardware related infrastructure, which includes voice and data communications networks, and (2) mainframe and non-mainframe based software applications. The Company develops and uses these software applications in functions such as reservations, ticketing, flight scheduling, seat inventory and customer service.

The second area consists of user maintained applications that generally are not supported by the Company's Information Services Division. The third area consists of operational systems and devices

that include, among other things, aircraft avionics, baggage handling, aircraft ground handling, passenger loading bridges, and flight simulators. User maintained applications and operational systems and devices are collectively referred to as "non-IT systems."

The fourth area consists of the Company's critical business partners which would include, among others, air traffic control systems, airport authorities, telecommunications providers, computer reservation systems, and airframe and engine manufacturers.

As discussed below, the Company remains on target in completing its five-step process. The awareness and inventory phases are complete. The assessment phase is complete with respect to IT and non-IT systems, and substantial progress has been made in the remediation phase of the IT systems, and with a few exceptions for non-critical systems, substantially all IT and non-IT systems will be remediated by March 31, 1999. The assessment process is still ongoing with respect to critical business partners.

The Company remains on schedule for completing the remediation of its hardware infrastructure. Remediation and the initial system testing of the mainframe hardware and software is substantially complete, while all other hardware infrastructure, including data and voice networks, is expected to be remediated and tested by March 31, 1999.

Remediation and initial testing of essentially all internally developed IT software applications has been completed as of December 31, 1998.

System integration testing for all IT systems that are critical to the operations is expected to be completed by June 30, 1999, and system integration testing for all other systems is expected to be completed by June 30, 1999.

The technical assessment stage for non-IT systems is complete. Most airport systems (including aircraft ground handling equipment, customer service equipment at airports and passenger loading bridges) are not date-sensitive and therefore will not require remediation. Those non-IT systems that are date-sensitive and critical to the Company's business, such as aircraft avionics and flight simulators, are scheduled to be substantially remediated and tested by June 30, 1999.

The Company has grouped its critical business partners into three categories: strategic, preferred or commodity. The "strategic" category consists of those partners, such as air traffic control systems, airport authorities, telecommunications providers, computer reservation systems, and airframe and engine manufacturers, without which the Company would cease to operate. The "preferred" category consists of partners that have substantial interaction with the Company, but whose absence would not necessarily cause an immediate or irreversible interruption or cessation of business operations. The "commodity" category consists of those partners who provide goods or services that could be readily replaced and whose absence would not materially impact the business. The Company has contacted its "strategic" partners and has performed site visits to ascertain their state of Year 2000 readiness. Preferred and commodity partners are being contacted to evaluate their Year 2000 remediation programs. To date the Company has contacted a significant number of preferred and commodity partners. For those partners without programs in place or not responding, the Company may look for alternate suppliers unless a Year 2000 program is in place with a planned completion date no later

than June 30, 1999.

The Company is working closely with the Air Transport Association ("ATA"), an industry organization consisting mostly of North American airlines. The ATA has undertaken a study to assess the process that major domestic airports are using to achieve Year 2000 readiness. Preliminary results of that study suggest most of the larger domestic airports are making progress toward being Year 2000 compliant. Certain of the smaller domestic airports do not, as yet, have detailed Year 2000 plans in place. A similar project is underway with the International Air Transport Association to review the Year 2000 process at international airports. Current information suggests that some key international airports may be behind schedule.

United's aircraft manufacturers have concluded that there are no flight safety issues. However, the Company continues to test its aircraft systems and to work with its manufacturers to ensure Year 2000 readiness.

To date, the Company has projected that it will cost approximately \$90 million (\$38 million in capital spending and \$52 million in expense) to make the Company Year 2000 ready. Of that total, \$28 million has already been spent, while the remaining \$62 million is expected to be spent in 1999.

A series of airline readiness reviews are planned during the second quarter of 1999 to ensure aircraft, air traffic control, airports, support groups and critical business partners are prepared for Year 2000 and can provide uninterrupted operations. By September 30, 1999, the Company will complete a risk analysis and develop risk estimates after completing the airline readiness reviews. Based on the results of the airline readiness review, the Company will develop any contingency plans that are needed. . Our commitment to provide safe, uninterrupted operations is the driving force behind the Year 2000 Program. Bearing our customers travel experiences in mind, we will continue to work towards that mission with dedication and focus.

FRONTIER AIRLINES STATEMENT

YEAR 2000 COMPLIANCE

Frontier Airlines is taking the Year 2000 problem very seriously. It is our intent to implement the steps necessary to provide a higher degree of certainty that there are no material disruptions in our business at the turn of the century.

The Frontier Y2K Project Plan, (already provided to the Federal Aviation Administration and the Irish Aviation Authority) sets forth a plan to identify, assess, and resolve Year 2000 (Y2K) related issues that might impact Frontier Airlines on 01/01/2000.

The Frontier Y2K Project Office, as described in the Frontier Y2K Project Plan, is the support organization for the Frontier Y2K Project. The Y2K Project Office is tasked with: a) developing, managing and implementing the necessary processes/procedures/guidelines for handling the Y2K

issue, b) increasing company wide Year 2000 awareness, c) reinforcing project priority, and d) acting as the central Y2K knowledge base within Frontier Airlines.

The Frontier Y2K Project Office has identified four primary objectives during the duration of the Y2K Project. These objectives are as follows:

To become Y2K compliant in all critical internal and external (out-sourced) computer systems prior to 01/01/2000.

To have contingency plans in place for all critical internal and external (out-sourced) computer systems should any problems occur on 01/01/2000.

To have contingency plans in place for all business essential services (such as services provided by utilities, telecommunications, the Federal Aviation Administration, fuel suppliers, etc.) should any problems occur on 01/01/2000.

To provide uninterrupted service to our customers on 01/01/2000.

The computing environment at Frontier Airlines is fairly simple, as the majority of Frontier's computer systems are either out-sourced or remain manual. Internally developed systems and software acquired by Frontier are limited.

Because Frontier Airlines relies heavily on third parties that provide goods and services, the Company is reviewing, and has initiated formal communications with these third party service providers to determine their Year 2000 readiness.

As of April 1, 1999, Frontier Airlines has completed the identification and assessment phase of its Year 2000 Project. Some out-sourced systems have already completed the final modification and testing phases. These include the customer reservations and ticketing system and the credit card processing system. Frontier's general accounting and payroll systems have been upgraded to new versions that are Year 2000 compliant. The crew and dispatch training records, aircraft maintenance records and inventory control are in the process of being automated from manual systems to computer systems that are Year 2000 compliant. The Boeing Company has verified that the computer systems on the aircraft type operated by Frontier are or will be Year 2000 compliant before the Year 2000. Frontier plans to complete its modifications and testing by June 30, 1999, and its contingency plans by October 31, 1999. (Emphasis supplied by taskforce.)

If you require further information, please call Marchelle Storhaug (Frontier Year 2000 Project Team Member) at (303) 371-7400 ext. 1774 or Kevin Quashnick (Frontier Year 2000 Project Manager) at (303) 371-7400 ext. 1775.

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