Case Study

RESPONSE TO THE ALASKAN EARTHQUAKE

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Introduction

Involvement in number of major disasters has led me to observe that we are much better at applying the lessons learned from engineering experience from earlier earthquakes than we are in applying lessons learned from the management experience gained in earlier disasters. This brief case study deals with the management implications of reconstruction that took place after the 1964 Alaskan Earthquake for two reasons:

- o Despite the small population in the affected area, it was the most complex disaster rebuilding effort the United States has ever faced in peace time.

- o Perhaps because of its complexity, the Alaska reconstruction represented a turning point in how we approach reconstruction following large disasters in the United States.

Impact of Alaskan Earthquake

The 8.5 Alaskan reading on the Richter scale and the four minute

duration of the earthquake was of tremendous interest to geologists, since it was the largest reading ever recorded in North America. The physical appearance was dramatic. Some 52,000 square miles either rose or sunk by 5 feet or more. Docks, portions of the railroad, and a number of homes were replaced by the ocean. In central Alaska, which included about two-thirds of the population, the highways and the railroad were inoperable, water and sewer systems were out of operation, portions of them pulverized beyond repair. All the small boat harbors and canneries, representing the bulk of the economy, were unusable. Property lines were shifted, and where to rebuild was often a very difficult question. Large grabens were represented by red flags waving a warning of major new damage in a future earthquake. People in Crescent City, California, hundreds of miles away, were killed by tidal waves.

Because of the very short construction season, combined with the severe winters, the prospect for sufficient rebuilding to enable residents to remain in Alaska were dim. When I first arrived in Alaska, I found no engineers who believed it was possible to rebuild quickly enough to avoid the necessity for mass movement of Central Alaskans to the lower 48 by fall, a catastrophic blow to the young state.

Soaring inflation was expected, a chronic problem in Alaska, which the rebuilding would greatly exacerbate. The economic impact on a state with a very small economic base, was more severe by several orders of magnitude than that faced by any other state since the Civil War.

In a desperate effort to rebuild rapidly enough to prevent out migration and economic disaster, it was clear that the effort would involve an unprecedented variety of federal, state and local agencies. As it turned out, every federal department, and most of the independent agencies, were involved. Movement of one cemetery, for example, involved our State Department, foreign affairs officials in Moscow, and the head of the Russian Orthodox Church. The same diversity of involved agencies was true at the state and local levels. Further, the private sector and non-profit organizations also played key roles in the successful recovery.

Need for Special Machinery

President Johnson quickly concluded that the existing federal machinery would not be adequate to harness this variety of agencies in a timely fashion, and that special organizational arrangements would have to be made. The President essentially convened his Cabinet in a disaster policy role, and with Congressional agreement, called it the Alaskan Reconstruction and Development Commission. Recognizing that there would be a need for close Executive/Congressional cooperation, he took an unheard of step by naming a senator as Chairman of this Reconstruction Commission. Although it was clear that a powerful senator could exert considerable policy leadership in such a situation, a legislator could not constitutionally exercise executive powers. Therefore President Johnson relied heavily on his department heads and also appointed me, a member of the Executive Branch, as Executive Director to act as the operational coordinator of the rebuilding effort.

To emphasize the intent to use the recovery effort not just to restore what existed on Good Friday, but to use the disaster as an opportunity for future development of Alaska, this organization was entitled the Federal Reconstruction and Development Commission for Alaska. [emphasis supplied].

Because this unusual machinery was only a temporary arrangement of about six months, and because we worked through agencies, not around them, we avoided the bureaucratic resentment that a long term special super-structure would have generated. As we got underway with our work, it became clear that in many ways the past approaches to dealing with disasters in the United States were simply not adequate for this one. New management approaches were to be required, some of them drastic departures from past experience.

MANAGEMENT APPROACHES

Authority. Neither the Commission nor the Executive Director had special legal authority to do anything other than to coordinate and gather information. However, because the members of the Commission were of Cabinet level, they had ample authority to direct whatever needed to be done within their areas of statutory responsibility. Since I reported operationally to the President of the United States, I was able to draw upon the leverage of the President in urging departments and agencies to action. The fact that I also worked for Senator Anderson, a very powerful Senator who was close to the President, further strengthened my position.

Early Construction. Initial reconstruction planning for Alaska began immediately after the disaster struck. The typical 2-step approach was to wait until completing the early emergency relief response of providing food, medical aid, and emergency shelter work to be completed before starting rebuilding,
This overlap of reconstruction planning with the early emergency response provided greater dividends than expected.

- Momentum was maintained from the initial outpouring of relief activities and goodwill on the part of people elsewhere in the United States as we moved into the rebuilding phase.

- We were able to seek funds from the Congress, as well as other needed legislation, while the disaster was still fresh in Member's minds and not yet heavily distracted by other problems and issues with which a national legislative body has to deal.

Centralized Policy and Decentralized Operations. Organization of the effort involved both policy level coordination in Washington through the leadership of Senator Anderson, supported by the Executive Director, and the operational coordination under my supervision. Within a few days we established an Alaskan Field Committee in Anchorage, Alaska, to conduct day to day operations. Decentralization was essential since Central Alaska was several thousand miles away from Washington.

The Field Committee was composed of the principal representatives of each federal department located in Alaska, and chaired by the Regional Coordinator for the Department of Interior which had the largest federal program in Alaska at the time of the earthquake. Field Committee members forwarded information through two channels, one to their superiors in Washington, and simultaneously, a copy direct to me. This approach accelerated departmental reporting at an amazing rate.

I received weekly reports on the progress and problems of each project in each community. When a problem emerged, we simply phoned the lead federal agency or the Alaskan state officials to help correct the problem quickly before it became serious, an approach not possible when one relies on the traditional memoranda and hierarchical reporting. We prepared a weekly progress report for Senator Anderson and the President, which the White House released to the press. This provided an added incentive for performance, since we singled out both good and bad performances by various departments and agencies.

I commuted between Washington and Alaska, spending an average of 10 days in each location. While in Alaska I would gather a nucleus group of federal and state officials and fly in a small plane to each community for about one half day to meet with various elements of the community, inspect progress, and jointly make whatever operating decisions were required.

Task Forces. A series of nine task forces were immediately set up, each to deal with a particular area of concern which had to be addressed during the reconstruction effort. Members were drawn from participating agencies most heavily involved in each of the subject areas. Individuals were selected more on the basis of their expertise and initiative than on their organizational rank. This extensive use of task forces contributed greatly to our ability to organize quickly, and to move more rapidly than the bureaucratic hierachy of numerous agencies would have permitted.

- Community Facilities. Although the work horse of the reconstruction of community facilities was the Corps of Engineers, with Navy providing a similar role in Kodiak, we also established a Task Force to deal with public buildings, the health aspects of reconstruction generally, schools, local government buildings, and the special needs of the Indian communities.
- Economic Stabilization. Because inflation was already high in Alaska, even in those pre-oil times, there was great fear that the influx of construction would drive prices totally out of reach. We established a volunteer wage and price control system, which was based largely upon cooperation of housewives, businessmen, and union members. This volunteer effort turned out to be extremely effective, and inflation did not result from the rebuilding.

- Financial Institutions. Substantial effort was devoted to the various types of loans and loan guarantees that might be available to businesses, as well as to the financial health of the State of Alaska, which had sustained a body blow in its infancy.
- Housing. The rebuilding of housing, and the role of government in that rebuilding, required a special effort. Considerable time was spent in Alaska and in Washington developing new laws and regulations to deal with mortgage and insurance problems which, for the first time, gave mortgage help to those who lost their homes in disasters.
- Industrial Development. A very important consideration was that rebuilding facilitate future development, rather than simply restoring facilities, which had been the policies of the past. Small boat harbors, for example, were generally rebuilt to twice their pre-earthquake size. This required special legislation, but we were very reluctant to rebuild facilities which were already antiquated. Roads were rebuilt to modern standards rather than simply restoring them as had been the policy of the federal government in previous disasters (except only very minor deviations were made primarily for safety reasons).
- Natural Resources Development. Because of the frontier nature of Alaska, and the large amount of undeveloped land under public control, combined with the importance of its bays and waterways, the impact of reconstruction on the natural resources of Alaska was of critical interest.

- o Ports and Fishing. Since the economy was dominated by the fishing industry, the rebuilding of the ports, and the operation of the canneries, were vital. An unexpected task dealt with striving to counter illegal fishing by other countries in Alaskan fishing waters.
- o Transportation. Because all modes of transportation in Central Alaska were rendered unusable by the earthquake, this task force was required to move forward with tremendous speed. All transportation modes were restored in a surprisingly short time, although in many instances temporary bridges and roads were built that first constructed that first season until permanent structures could be built.
- o Scientific and Engineering Task Force This key Task Force involved extremely able men from the U.S. Coast and Geodetic Survey, the Geological Survey, and the Corps of Engineers. Because of the great importance of their report, it is attached to this statement.

Openness. Because our work affected the future welfare of people in Alaska in far more ways than the customary post-disaster rebuilding, I thought it was essential that citizens be informed and involved to the maximum extent as we moved forward, an approach approved by Senator Anderson and President Johnson.

Yet the special time constraints permitted little for special meetings to explain and defend what we were doing. We did not have time for formal public hearings.

As a result, I opened all of our meetings in Alaska to the public, a practice which saved time and led to widespread public support. This often meant lengthy meetings, but virtually everyone had an opportunity to be heard and to see firsthand what we were planning. In one instance, we spent all night discussing the fate of Valdez. At the beginning I advised the citizens that we could provide federal support to the rebuilding of Valdez only in the event that the people decided to relocate the whole town to a safer location. This was clearly a difficult decision for them, and required extensive discussions through the night. When the citizens finally decided to relocate, I went back to what was left of the severely damaged Valdez Hotel in bright morning light.

This open policy paid an unexpected dividend. It provided people with a clear understanding of why we were taking unpopular steps in the interests of mitigation. Although they were not always persuaded, they did not question our motives, their opposition was greatly reduced in most cases, and we finished our work with strong support from the vast majority of the people.

Avoidance of Red-Tape. In most instances, we rejected customary governmental procedures and concentrated on observing legal requirements rather than administrative procedural requirements. The latter were often too rigid and slow for our schedules. We generally ignored requirements for public hearings because they were time consuming and largely unnecessary in an operation that was so open to the public. In establishing schedules for construction projects, I frequently used as a rule of thumb taking the customary length of time for certain actions, then dividing that by ten and using the resulting 1/10 of the normal time as the base from which to strive to make further cuts in the time required to design and construct. The time for project planning and approval stages were often cut by over 95%. That drastic approach forced people to ignore most of the procedural maze that normally frustrates decision making and action in our federal bureaucracy.

The result was design and construction at a record setting pace for peace time. To our relief, the quality suffered little, if at all. Further, audits revealed no misuse of federal funds. Not all of the assisted business concerns, however, survived the post earthquake period.

Integration of Agency Activities. State, local, and federal government efforts, plus those of the private sector, were

fully integrated, another innovation in our approach to disaster reconstruction. I made this a precondition to the receipt of federal assistance.

We developed a Seward plan, a Valdez plan, a Kodiak plan, as examples, rather than a federal plan, a separate state plan, and still another separate local plan, as had been done in the past. The development of these integrated plans was done jointly. All of our meetings were public and involved all three levels of government. The basic decision making was done by all of us sitting around a table, rather than by sending memoranda back and forth, a traditional bureaucratic approach we could not afford.

In these intergovernmental meetings we would reach tentative agreements with respect to the timing and the funding of each project for an individual activity. There were scores of individual activities involving water, sewers, roads, railroads, highways, docks, homes, businesses, etc. Each agency at each level of the government then would review these tentative agreements with their staff in their respective offices, and at the next meeting, generally 10 or 12 days later, we would reach a final agreement,

The guidelines and the agreements we reached at the policy level of the three governments often were not supported by the engineers. Understandably, they regarded our schedules as highly unrealistic, because they were far tighter than any prior

experience indicated could be achieved. I insisted that the Corps of Engineers and the Navy incorporate strong incentive payments and stiff performance penalties in contract provisions to assure timely completion of construction, techniques not previously used by the Corps. This required the helpful intervention of then Deputy Secretary of Defense, Cyrus Vance. I and my small staff personally inspected all of the projects, and discussed problems with anyone working on a particular project, regardless of their organization. To avoid confusion, we were always accompanied by state and local representatives.

The Alaskan state coordinator was given access to all of the files and records possessed by the Alaska Field Committee. He was an active participant in all field meetings in the various communities. In Washington, the Alaskan Attorney General, who had been designated by Governor Eagan as liaison with the Federal Commission, participated in our meetings and had free and open access to our files and records, as did the state and federal auditors.

Motivation. Given the scale of the devastation, motivation was essential to success . There was danger that many people would find the rebuilding task so enormous, and the prospects of completing most of it before the end of the construction season so small, that they would not make the necessary rebuilding effort.

One asset was the fact that Alaska retained a measure of its earlier frontier spirit. In addition, we tried to persuade people that out of the tragedy of the earthquake, citizens had an opportunity to build better communities than existed prior to the earthquake. The involvement of various segments of the community in the planning of the rebuilding helped translate this concept of opportunity into sustained action.

To bolster this concept we moved beyond earlier concepts of simply rebuilding facilities to the State in which they existed prior to the disaster. New standards were required for reconstruction, as mentioned earlier. Safer locations for houses and businesses were required in many instances, although relocation was difficult and controversial. Also as noted earlier, is the fact that one whole community agreed to move to a new town site because our engineers said the old site was unsafe.

Safety Analyses Before Construction. In no major disaster in the United States has there been such pressure to move forward with the rebuilding, both because of the short construction season and because of the pervasive impact of the earthquake. Despite this pressure, the Commission established a policy at the outset that soil instability was so crucial with respect to ground movement in

future earthquakes, that reconstruction would not begin until extensive soil surveys had been conducted to determine high risk areas. Saturated Bootlegger Cove Clay was especially treacherous, and it underlay large portions of Anchorage in particular. High risk areas were red lined as areas in which no federal mortgage or other rebuilding assistance would be provided. Earthquake hazard mitigation was a paramount consideration throughout our planning.

We drew together all of the drilling rigs we could locate, including a number that I borrowed from the Atomic Energy Commission testing grounds in Nevada. We virtually blanketed certain areas, especially in Anchorage and Seward, to determine the composition of the soil and its susceptibility to future earthquake action. I was not satisfied with the stabilization schemes that had been developed for Anchorage and brought in a soils engineer from Norway, which had soils and other conditions more similar to Alaska than any other location we could find.

We received heavy criticism for deferring most design and construction for a number of weeks while soil testing was underway. In view of the short construction season, this impatience was understandable, but we were determined to minimize rebuilding that was unduly vulnerable to future earthquakes. In the end, the later expediting of individual projects and the overall rapidity of reconstruction swept away this early negative public reaction to our caution.

SUMMARY

- Emergency relocation, design and reconstruction were completed before the construction season ended, setting peacetime records, and enabling all major public facilities to be back in operation. The one exception was Valdez, which had to be relocated, permitting only temporary repairs the first year.

- Migration to the lower 48 did not occur because the rapid reconstruction enabled people to remain.

- Through the volunteer efforts of citizens, an informal wage and price control system ensured that inflation did not take place.

- Despite the time pressures, mitigation was given far more attention than in previous disaster reconstruction, although the short construction season did limit some mitigation steps. The red-lining, and the relocation of Valdez, were the most publicized instances of mitigation planning, but many less visible actions were woven into the projects.

- Community planning of national, state, and local agencies were all integrated into one plan, jointly developed.

- Federal policy was changed so that assistance could be provided to rebuild facilities to modern standards (such as road width) rather than those which existed at the time of original construction.

- We learned what is possible in managing the public business to achieve goals that few thought could be reached. We took quantum steps in cutting through the red-tape, new intergovernmental approaches were established, extensive use was made of diverse task forces, rapid decision making was made possible despite the large number of federal, state, and local organizations involved, openness of governmental operations was practiced to an unprecedented extent, and integration of different disciplines and organizations was achieved in developing a highly diverse team to attack the challenge of rebuilding. Extensive citizen involvement was achieved without delaying the urgent task of rebuilding.

- Finally, contrary to the usual public image of government employees, the federal government and its employees in the public service, emerged with a very popular image in the view of most citizens who saw an example of fast governmental response to their wide range of urgent needs. Unfortunately, we failed to find a way to transfer very much of what we learned to our non disaster day to day operations of our federal government.

Dwight Ink, President of the Institute of Public Administration, has held policy level positions under seven Presidents, most recently as Assistant Administrator of the United States Agency for International Development for President Reagan. He has advised the White House concerning post disaster reconstruction in several instances. President Johnson appointed Mr. Ink as Executive Director of a special Presidential Commission to plan and direct the governmental response to the 1964 devastating Alaskan earthquake, the subject of the case study included in this report.

His work has also included government-wide decentralization for President Nixon, design of the Civil Service Reform for President Carter, the first overhaul of the Federal personnel system since it was established in 1883, and responsibility for the President's government-wide organization and management improvement programs. As the first Assistant Secretary for Administration at the Department for Housing and Urban Development for President Johnson, he organized the newly created department along nontraditional lines. He is former President of the American Society of Pubic Administration and a member of the National Academy of PUblic Administration.