institute in return for support, or at least neutrality. Already the Arizona delegation has launched a political offensive on Capitol Hill. A fortnight ago it thoughtfully provided all members of Congress with the August 1975 issue of *Arizona Highways*, which was devoted almost entirely to Arizona's efforts in solar energy.

Two areas that are traditionally heavyweights in the competition for scientific installations have been slow to get started but are preparing to enter the fray. California's effort is being guided by Paul Craig, a former National Science Foundation official who is now director of the University of California's Council on Energy and Resources. Craig's group, which has been working closely with such institutions as the University of California at Berkeley, the Lawrence Berkeley Laboratory, the University of California at Los Angeles (UCLA), the Scripps Institution, Stanford University, California Institute of Technology, and the Jet Propulsion Laboratory to develop an "all-California" proposal, has already identified three tentative sites—the Stanford industrial park area, an engineering facility owned by UCLA, and the hills high above the Berkeley campus.

Meanwhile, that other heavyweight—Massachusetts—has expressed "strong interest" in SERI in a letter from the governor. And, in a move reminiscent of the *Arizona Highways* caper, the September issue of *Industry*, published by the Associated Industries of Massachusetts, is devoted almost entirely to solar energy, with a major article by Senator Edward M. Kennedy explaining why SERI should be in Massachusetts. The magazine has thoughtfully been provided to Kennedy's senatorial colleagues, who almost certainly would not find it on their local newsstands.

The New England states, operating through the New England Council, a chamber-of-commerce-type group, and through the senatorial and congressional delegations, is trying to develop a regional effort to secure SERI, but this is expected to reinforce, not preclude, any efforts that individual states, such as Massachusetts, might launch.

The extent of interest in SERI won't be known until formal proposals are submitted. But government or private leaders in a surprising number of states have indicated they intend to bid for the institute, or at least for a field station or two. A not necessarily comprehensive list of other interested states or territories would include Alabama, Delaware, Hawaii, Michigan, Nebraska, New Hampshire, New Jersey (nominated by a utility based there), New York, Ohio, Pennsylvania, South Carolina, South Dakota, West Virginia, American Samoa, Guam, and Puerto Rico.

Although no contending state can really hone its arguments until the final criteria and guidelines for the institute are known, preliminary communications reveal no dearth of ingenuity among the proposal writers. States with lots of sun claim solar research is best conducted in their climate; states with less sun claim experiments will need to be conducted in a variety of conditions. States with lots of research installations claim the institute will need such backup support; states with few intellectual resources say the institute should be used to spark new "centers of excellence." States with large supplies of gas, oil, or coal say they need to prepare for the disappearance of their fossil fuel resources; states without such deposits say they need solar energy to gain fuel self-sufficiency.

Guam, which considers itself the keystone of the American defense perimeter in the Pacific, even suggests that national security would be enhanced if it could be given SERI and the capacity to lessen its dependence on imported fuels. ("I've been on Guam," counters a rival from another state. "How are you going to persuade the scientists to relocate there?")

The sunny states were dismayed at a conclusion in the academy's interim report that the choice of a site "need not be linked to climate or weather" because much of SERI's work will involve analysis and simulation, while various outdoor experiments could be conducted at temporary field stations remote from the research institution. But Southern leaders believe the sun will still give them a practical political edge. As one expressed it, "I don't care what the scientists say. Close your eyes and ask yourself how ERDA is going to tell Congress and the American people that it wants to put the solar research institute where it's cloudy."

The latest schedule for picking the site—described as "iffy" and "mushy" by ERDA schedulers—anticipates that guidelines will be published in November, states will then have 45 to 90 days to get their proposals in, ERDA's staff will then evaluate them and conduct site visits, and a final selection would be made at the earliest by next April.—PHILIP M. BOFFEY

Aircraft Carriers: Pentagon Split on Issue That Will Shape Navy's Future

A major debate is now going on in the Pentagon, and soon will spill over into Congress, about how and whether to replace the 13 aircraft carriers that have been the centerpiece of the U.S. surface Navy since World War II. One issue is whether a new series of carriers will be militarily viable when completed in the 1980's and 1990's. Another is cost; the price tag for a new fleet of carriers could leave the Navy hard pressed to pay for anything else.

The Navy at present plans to replace its existing fleet with carriers which will be, in most major respects, similar to those of today. But a number of defense analysts are worried that this may be a poor plan. Such a fleet may make the Navy and the nation more vulnerable to attack than it is at present and may be technologically obsolete by the time it is built. As one analyst said of the plan, "I'm just wary of the Navy putting all its eggs in one basket."

A decision on the future of the carrier is urgent because of the long lead times involved. A carrier takes 6 or 7 years to build; once commissioned, it has an active lifetime of 30 years. Since the current schedule calls for roughly half of the present carrier fleet to be retired from 1985 through 1991, the Navy will have to start building in 1977 or 1978 if it is to have new carriers ready to take the place of the old.

Carriers are the organizing factor around which the Navy plans its manpower levels, other ships, some of its submarines, its aircraft, and even research and development. Hence, decisions on the carrier, made in the next year or so, will shape the Navy itself in the next generation.

The Pentagon probably will unveil its plans for the fleet when it submits its fiscal 1977 budget to Congress next January. For some time, the Navy has urged the building of a new fleet of 12 nuclear-powered, 90,000-ton supercarriers, like the recently

commissioned U.S.S. *Nimitz*. Last January, Secretary of Defense James R. Schlesinger supported this view in his budget statement to Congress, saying he planned to procure "additional carriers at the rate of one every two years," beginning in fiscal 1978, with some advance items to be requested in fiscal 1977.

This summer, however, Schlesinger changed his mind at the urging of his Office of Program Analysis and Evaluation. Its analysts argued for a smaller carrier, weighing 50,000 to 70,000 tons and nicknamed the "midi." The midi would have less strike power than the present, "maxi" carriers, and may not be able to accommodate the F-14 fighter, but otherwise would be essentially the same. Its main advantage would be its lesser cost. In July, in a secret memorandum later leaked to the Washington *Post*, Schlesinger ordered the Navy to plan for the new class of midis, and deferred a final decision as to whether to build any more maxis.

Another option Schlesinger has been considering is the so-called "mini" carrier, a ship weighing 30,000 to 35,000 tons that could be adapted for a wide variety of uses. It would carry only vertical and short takeoff and landing vehicles (VSTOL) and helicopters, although some say it could also be outfitted for conventional planes.

The Chief of Naval Operations, Admiral James L. Holloway III, is studying the possibility of extending the lives of existing carriers from 30 to 45 years; this could enable the Navy to delay building more carriers for some time. A final option is to build no carriers at all and spend the money on building more submarines and small surface ships. In this case, the existing carrier fleet would last, reduced in size, into the 1990's; some vessels would still be around in the year 2010.

However, few people believe that the Navy will stop building carriers. As one admiral told *Science*, "The Navy's assumption is that there are going to be carriers around and there is going to be money to pay for them."

It is an institutional fact of life that many of the officers who run the Navy have commanded or served aboard carriers at some time in their careers. Most of them regard aircraft carriers as the greatest ships in the world. And, in fact, few people question that the carriers played critical roles in World War II and the Korean war.

Yet, to persuade Congress to authorize funds for a whole new fleet of *Nimitz* class or midi class carriers the Navy is going to have to answer the twin questions of cost and technological obsolescence which could spell their demise.

Carriers are so expensive as to be on the verge of pricing themselves out of even the Defense Department's pocket. Escalating shipbuilding costs have dogged the industry in recent years, and the costs of carriers have been no exception.

Table 1. Carrier costs.

Carrier	Year	Cost (millions of dollars)
U.S.S. *Nimitz*	1967	683.9
U.S.S. *Eisenhower*	1970	748.5
U.S.S. *Vinson*	1974	1,500

Inflation in carrier construction costs can be projected in several ways, but the results are usually, as one Naval officer said, "too horrible for us to even think about." According to Rear Admiral M. Staser Holcomb, director of systems analysis in the Office of the Chief of Naval Operations, a carrier which costs $1 billion in 1975, if reordered at 2-year intervals, can "conservatively" be estimated to jump $0.5 billion in price each time. Thus, by the time the 12th new carrier is ordered, in 1997, its cost will be $6.5 billion. These numbers do not include its planes or escort ships, which, at 1975 prices, would add $2 billion to the total cost.

Another Pentagon official calculates cost escalation, including general inflation, another way, resulting in numbers that are even more "horrible." He says that the cost of the same carrier ordered at regular 2-year intervals can escalate 20 percent with each new order. Thus, the ship that costs $1 billion to start with will cost $9 billion when the 12th copy is ordered.

In general, a ship's price varies with its tonnage. The mini, being one-third the weight of the $1.5-billion maxi, should therefore cost $500 million. One indication of the staggering rise in shipbuilding costs is that this sum is equal to the combined cost of two giant carriers, the U.S.S. *John F. Kennedy* (see photo), and the U.S.S. *America*, both of which were built in the 1960's.

Cost, because it limits the size of the fleet, could lessen the Navy's total strength, some argue. Holcomb puts the dilemma this way, "I'm really a proponent of more, big carriers. But I'm enough of a financial realist to know we aren't going to be able to afford to build 12 or 24 big carriers. It looks to me as though numbers of ships are going to be most useful.... If you don't have enough of them to do the jobs you need done, and to be all the places you need to be all the time, then you're weaker."

Proponents of a new fleet of *Nimitz* class carriers say that their effectiveness as an extension of overall U.S. military might

Zumwalt Decries Nuclear Theology

Admiral Elmo R. Zumwalt, Jr., who retired in 1974 after 4 years as Chief of Naval Operations, is well known for his view that the United States would lose to the Soviet Union in a long conventional war at sea. His opinions on the weakness of the present carrier fleet is an important plank in that belief.

Zumwalt recently discussed with *Science* the present and the alternative futures of the carrier fleet. He believes a new class of 70,000-ton "midi" carriers will not be worth the money. He thinks the proposed fleet of 12 90,000-ton *Nimitz* class carriers should be reduced to nine. That way the Navy could afford an added 20 or so conventionally fueled "mini" carriers (carrying VSTOL aircraft and helicopters) as a rapid reaction task force stationed around the world. But the stumbling block to such a stronger, more versatile force is the prevailing belief that all new carriers should be nuclear powered.

"There are two major reasons why the United States would lose a war at sea with the Soviet Union," says Zumwalt. "One is that they [the USSR] have been outspending us on ships. The other is that we are spending our money wrong."

Wrong, to Zumwalt, means a crippling emphasis on nuclear power, which drives the cost of any ship—even the proposed conventionally powered "mini" now estimated at $500 million—into the $1 billion range. "We lose to an emotional, theological argument that nuclear power is good and do the irrational thing by making as many ships as possible nuclear powered. . . .

"Congress has always been misled in back room briefings when a nuclear ship is compared with an identical one that is conventionally powered. You come to the inescapable conclusion that nuclear power is more effective. But, instead, you should look at the fact that you give up five conventional ships for one nuclear ship. And, you have more power, are more likely to win the war, with a greater number of ships."—D.S.

is well worth their cost. The carriers are intended for these principal missions: a conventional war at sea with the Soviet Union; mounting sustained air attacks onshore, especially against countries with weak air forces; and showing the flag in such crises as the Bangladesh war. Also, the carriers compensate for the loss of overseas U.S. land bases, which, in recent years, have become more and more politically vulnerable.

Advocates say the 90,000-ton carrier, which concentrates many different capabilities in a single, mobile base, is highly efficient. All together, the armaments of the giant carrier are unequaled by those of any other ship or complex of conventional weapons in the world. As Navy Secretary J. William Middendorf II said in a recent speech, the carrier is "that single platform which is capable of carrying out all the missions of the U.S. Navy."

Mini Carrier a Threat

However many giant or midi-sized carriers are ordered in the near term, they still face the long-term threat of the 30,000-ton mini carriers which, its advocates say, is the best future solution. The mini looks promising because of the development of new technologies which enable smaller ships to perform many of the crucial functions of present-day carriers.

One technology that is frequently mentioned is the VSTOL aircraft, such as the Marines' British-built Harrier, and the more advanced versions under development by the Navy. The small space they require diminishes the raison d'être of today's carriers, namely their vast flight decks.

Skeptics point out that VSTOL aircraft are, from an engineering standpoint, inherently more complicated than conventional planes and will be costlier. Moreover, the larger engine and volume of fuel needed for vertical takeoff is a physical limitation which bars VSTOL from competing with most conventional fighter and attack planes.

But VSTOL's current performance is not the issue; the question is whether VSTOL can compete with conventional aircraft in range and payload by the mid-1980's. Harrier program chief Colonel John R. Braddon is optimistic because long-awaited advances in engine thrust-to-weight ratios, lightweight materials, and other needed things are finally coming to pass. "It seems reasonable that now, in the present state of the art, a competitive VSTOL is reasonably attainable," which would have "very great impact" on Naval ship design, he says.

Other new technologies, such as the cruise missile, could do many of the jobs now performed by the carriers' pilots and airplanes.

Richard Garwin, of the IBM Corporation, a well-known defense consultant who is something of a guru in military circles on the subject of new technology, believes that these developments make both the giant and the midi class carrier obsolete.

"It is the existence of the carrier, and the effort to make it look both necessary and durable, which has kept the Navy from

Zen and the Art of

Sometime during the morning of 2 September, a large crack developed in the 12 ton disk of brownish glass that stands in the optical shop of Kitt Peak Observatory, Arizona. The glass monolith was being polished up to form the mirror of an infra-red telescope planned for Mauna Kea, a volcanic peak in Hawaii. The mishap, cause of which has yet to be determined, is an unusual accident in a craft which in some respects has not changed for centuries.

The Mauna Kea mirror blank cost $300,000 when the National Aeronautics and Space Administration bought it two years ago from the Owens-Illinois Glass Company of Toledo, Ohio. It will probably cost $500,000 to replace, if the crack cannot be contained. Norman Cole, master optician at Kitt Peak, believes he may be able to halt the crack by drilling a small hole at its end. If not, the glass can be cut into blanks for smaller mirrors of equal value to the original.

Telescope mirrors are gently concave surfaces where light is collected, focused up to a second mirror, and passed back through a hole at the center. The crack in the Mauna Kea blank starts at the central hole and extends for 86 centimeters toward the disk's edge. It appeared after only 6 weeks' work had been done on the blank. Had the crack come when the mirror was finished, some 18 months' labor would have been destroyed. What takes so long to bring a mirror to perfection are the constant stops for testing the surface. The 200 inch mirror of the Mount Palomar telescope took 8 years to polish into shape, not counting time out during World War II.

The Mauna Kea blank is 3 meters in diameter and 76 centimeters (30 inches) thick. There are still only six telescopes in the world with mirrors more than 3 meters in diameter. Norman Cole has done two of them—the 4 meter at Kitt Peak and its sister at Cerro Tololo in Chile. The Kitt Peak mirror took 3½ years to polish. With that experience, Cole and his team managed to rush the Cerro Tololo mirror through in 2½ years. Astronomers say it's just a whisker better, too. The other four big telescopes are the 200 inch at Mount Palomar, the 120 inch at the Lick Observatory in Santa Cruz, the new 154 inch Anglo-Australian telescope at Siding Spring in New South Wales, and the Russian 236 inch (6 meter) at Zelenchukskaya in the northern Caucasus. The Russians are rumored to have lost at least one and maybe two of these 6 meter mirrors to cracks.

Preparing a mirror is both craft and science. Some techniques of fine polishing, "figuring" as opticians call it, haven't altered much in 200 years. Jeweler's rouge is still the abrasive used in figuring. But mirrors nowadays are made of glass-

considering, developing, or presenting any alternatives," Garwin told *Science*. "It has impeded naval R & D. It has impeded naval thought. . . .

"What has changed," he says, "is that airplanes have become very much more effective in attacking ground targets," with precision guided weapons instead of gravity bombs. The performance standard for the carrier and its complement of airplanes has been, he says, how many tons of explosive can be dropped from the airplanes after they leave the carriers on bombing missions. "But if you can do the same thing with one-tenth the payload, that measure of effectiveness becomes meaningless."

Tactical cruise missiles launched from smaller ships or submarines can launch sustained attacks against land targets. The self-guided vehicles—small enough to fit into ordinary torpedo tubes—can be programmed before launch to find and strike their fixed ground targets, just the way pilots aboard the carriers get their instructions in the briefing room before a day's sorties. Hence this job can be done from smaller ships or submarines.

U.S.S. John F. Kennedy

Cruise missiles, which the Soviet navy has in abundance, also make the carrier's flight deck more vulnerable to air attack. Defenders of giant carriers claim that improved countermeasures have kept the carriers invulnerable in nearly all situations, but they also concede that the carrier flight decks can be disabled if subjected to a con-

Big Mirror Making

ceramics, materials whose thermal coefficient of expansion is magically near zero. Glass-ceramic mirrors do not change shape as the night cools, which is one advantage. Another, for the optician, is that he needn't wait until the mirror has cooled before testing for his next polish.

The optician's nightmare, of course, is shaving off too much. "On the glass surface there are mountains and valleys of the order of a millionth of an inch high," says Cole. "You have to whittle away the tops of the hills and mountains until you meet the level of the lowest valleys. If you overshoot, you create new valleys and have to start over."

Machines cannot work to such fine tolerances. The mirror is coarsely shaped by diamond-studded grinding wheels, then the opticians take over with their rouge. At first they rub away at large areas for several minutes at a time before stopping to test their progress. As the surface approaches perfection, they polish for just a minute at spots a square inch or so in area. It takes a knowledge of optics and at least 2 years on-the-job training before a polisher is let loose on a large mirror blank. The job may sound monotonous, but Cole does not find it so. "I have been doing this for more than 20 years but there are some days when I get up in the morning and do something wrong and think I have not learned a thing."

Mirror making is an art that progresses in delicate interplay with the other components of a telescope. At one time it was the mirrors that limited the accuracy of observation. Now the master opticians do their job so well that the photographic emulsion is becoming an important limitation. Its place is being taken by arrays of light-sensitive diodes, a windfall from the picturephone industry. The diodes can measure light from objects only 1 percent brighter than the black night sky. "It's incredible how much light we were throwing away 10 years ago," observes Peter Boyce, a National Science Foundation astronomer concerned with the instrumentation of telescopes.

Many advances in design, Boyce notes, come from people with smaller telescopes; they have to try harder. A 90 inch telescope with today's detectors has the seeing power of the 200 inch at the time it was built. At some observing sites the unevennesses in the earth's atmosphere have become the stumbling block to further accuracy. With the earth's atmosphere removed, mirrors once again become the limiting factor. The Large Space Telescope, 95 inches in diameter, is scheduled to enter orbit in 1982. Charles Odell, the NASA scientist in charge of its design, intends its mirror's surface to be more perfect than than of any earth-bound instrument. The Mount Palomar 200 inch telescope, he says, "doesn't approach 1/20th of a wavelength in its system accuracy, which is probably justified at that site because seeing is not particularly good. At good sites, like Kitt Peak and Cerro Tololo, it's worth going to 1/20th of a wave. The Large Space Telescope mirror will have a surface accuracy of 1/50th of a wavelength." The wavelength of light, taken at the midrange of the visible spectrum, is 6×10^{-5} centimeter.

The space mirror must also excel in lightness. Exploring ways to honeycomb the glass at the back of the mirror, NASA ordered mirrors from the two principal makers of giant telescope blanks, Owens-Illinois and Corning Glass. The first blank of Cer-Vit, the glass-ceramic pioneered by Owens-Illinois, cracked during heat treatment in the plant. A second was ordered, but NASA decided that Corning's material, called Ultra Low Expansion Quartz, would be safer to core out because the mirror can be constructed in several layers, which are then fused together. The second blank of Cer-Vit was donated to the telescope NASA is building on Mauna Kea. It is this blank that last month sprang a crack at Kitt Peak.

—NICHOLAS WADE

centrated cruise missile attack.

At the moment there seems to be no consensus among experts as to what mix of carriers the Navy should order, either next year or farther into the future. Schlesinger's program analysis staff has so far played the devil's advocate in the debate, arguing for the midi as a counterweight to the Navy's pleas for more giant carriers. According to one observer, the staff may be pro-midi as a way of "pushing" the Navy in the general direction of building smaller, simpler ships.

Other analysts disagree, saying that the midi is not even an interim solution to the Navy's problems, and that for all practical purposes the midi will be the same as the *Nimitz* type. They feel the Navy should be shoved, not pushed, to make a "technological jump" into a future in which its carriers are mostly minis and its aircraft mostly VSTOL.

One point which has been made over and over in this debate is how deeply intertwined are the Navy's decisions on carrier procurement and its aircraft programs. For example, a decision to press exclusively for giant or midi carriers will discourage VSTOL within the Navy and the aviation industry. The future of the F-14 will be bleak if only midis are ordered, since it may be able to land only on the giant carrier's deck. Finally, decisions favoring either the midi or the mini carriers would force the Navy and industry to think in terms of buying and building smaller conventional aircraft. The decisions of Congress and the Navy in the next year or two on carriers will have an impact on naval research, development and procurement, and, indeed, naval strategy, that will hardly be trivial.—DEBORAH SHAPLEY

Kleppe for Interior: Senators Give an Old Friend Kid Glove Treatment

After the brief and more or less perfunctory round of hearings held on his nomination, Thomas S. Kleppe seems, at this writing on 30 September, a sure bet to be confirmed by the Senate as the new Secretary of the Interior. As Senator Henry M. Jackson (D–Wash.), the chairman of the Interior and Insular Affairs Committee, noted in opening the hearings, Kleppe's record in the fields of natural resource management, energy resource development, and environmental protection has been "modest"—some would say virtually nonexistent—and his record as administrator of the scandal-ridden Small Business Administration (SBA) for the last 4½ years has been widely questioned (*Science*, 19 September). Nevertheless, Kleppe was treated gently, and the job at Interior is expected to be his unless a "smoking pistol"—a Senate aide's shorthand for some particularly glaring evidence of unfitness—should turn up.

The hearings, held on 23 and 25 September, took up about a day and a half altogether, and involved the testimony of about a dozen witnesses, only a few of whom knew anything about Kleppe, good or bad. Senator Jackson opened the hearings by observing that the Secretary of the Interior is "the people's trustee for the total environment" and that success in this office involves making difficult decisions in which energy resource development and environmental needs must be weighed and reconciled. Then, Jackson said that the committee would want Kleppe to respond to a wide range of questions bearing on his fitness, questions going to both his attitudes about resource management and about his record at the SBA. From that point on, however, it became increasingly clear that the hearings were to be little more than a friendly romp.

Two Republicans on the committee, Senator Mark O. Hatfield of Oregon and Senator James A. McClure of Idaho, both noted that Kleppe first came to Washington in 1967 as part of the "class of the 90th Congress" to which they also had been elected. "I welcome before this committee a man I entered Congress with some years ago," said McClure, and then added that he had "noticed some similar fans [of Kleppe's] in the back of the room a minute ago."

Senator Milton R. Young, a Republican from Kleppe's home state of North Dakota, said that since Kleppe—who lost a Senate race in 1970—had become administrator of the SBA in 1971, the agency had made 122,000 business loans totaling about $7.9 billion, which makes up nearly half the total volume of business loans made by the SBA during its entire 23-year history. In this, one could read the unspoken message that an agency head doesn't hand out that much money without making friends and scoring political points with a good many members of Congress. Young went on to say that Kleppe, a hail-fellow-well-met, is a good man on a horse, "a great outdoorsman," an "excellent bowler," and a keen competitor on the golf links. He could have added that Kleppe, both during his two terms of Congress and since then, has proved himself both a formidable handball player in the House of Representatives' gym and one of the more jovial presences in its steam bath.

Even before the first question had been asked of the nominee, Senator Paul J. Fannin (R–Ariz.), the Interior committee's ranking Republican, had this to say about him: "As a member of Congress, Mr. Kleppe was known for his open and forthright manner, and as administrator of SBA he established a reputation as an effective and vigorous leader." Among other things glossed over by this characterization was the fact that serious charges by the Civil Service Commission (CSC) of political favoritism in personnel appointments and the flouting of civil service laws have reached to Kleppe's immediate office—charges which, if proved, will lead to the removal from federal office of the man who for nearly 3½ years served as Kleppe's special assistant.

Senator Jackson did touch on the matter of the alleged political favoritism at the SBA in a question to Kleppe. But Kleppe said, "I have bent over backwards to [see] that our agency has not been partisan-oriented, because small business does not know the difference between a Republican, a Democrat, or an Independent, any more than they know the difference between a black, a white, or an Indian, Eskimo, or anybody else. Small business is small business, and we refuse to bend to the political pressures that we have been alleged to have done. . . . Then, to get a Civil Service allegation that says, 'Kleppe, you are political,' that hurts." Having so said, Kleppe simply referred the committee to his written response to the General Accounting Office (GAO) in regard to the CSC allegations.

The most serious of the CSC charges pertained to alleged favoritism in the appointment of four SBA district directors, including three appointed since Kleppe took over as administrator. In one in-