THE WHITE HOUSE

WASHINGTON

March 19, 1991

Dear Mark:

Enclosed herewith is the promised copy of my talk Friday evening at the Space Club.

Immediately following the Space Council meeting on Monday, my office received a phone request from Richard Malow of the House Appropriations Committee requesting a copy of our OSTP paper that was our response to the Vice President's request for an evaluation of the major scientific programs planned for the restructured space station. As you know, this paper was apparently acquired, in its entirely, by Space News and was, in part, published in that journal in it's March 18-24 issue.

Malow's belief is that, having been published in part, the paper is now public and he wants a copy. I would not release anything from this office without the Vice President's permission since the paper was part of my letter to him. Had the paper not been leaked Executive Privilege would clearly have applied.

Malow is very anxious to see this paper and with the Vice President's approval I would send him a copy simply because of the importance of maintaining a good working relationship with an important House Appropriations Committee.

I would appreciate your advice and, if possible, the Vice President's approval to release a copy of this paper.

Sincerely yours,

Allan

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SPACE, SCIENCE, AND THE AMERICAN FUTURE

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Executive Office of the President

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Scientists Hit Station Redesign

Two Reports Warn Space Research Goals Could Not Be Attained

By DOUGLAS ISBELL
Space News Staff Writer

WASHINGTON — NASA may have good reasons for proceeding with its redesigned space station, but conducting science is not one of them, two groups of leading U.S. scientists concluded in studies completed last week. The scientists found that the new station design has virtually no scientific justification.

"Neither the commercial processes nor the scientific merit of the microgravity experiments come close to justifying the cost and effort required to build, deploy and operate the station," according to a March 11 report written by the White House science adviser's office. A copy of the report was obtained by *Space News*.

A statement issued last week by the Space Studies Board of the National Research Council on the redesign of the space station reached similar conclusions. Given that NASA will spend up to $2.6 billion per year building and supplying the initial outpost, "neither the quantity or quality of research that can be conducted on the proposed station merits the projected investment," according to the statement.

The report by the White House Office of Science and Technology Policy (OSTP) to U.S. Vice President Dan Quayle recommended that NASA refocus the multi-billion dollar station project solely on research to support human space exploration. "The space station is needed to find means of maintaining human life during long space flights," according to the report, which was signed by Allan Bromley, presidential science adviser.

"This is its only scientific justification, in our view, and all future design efforts

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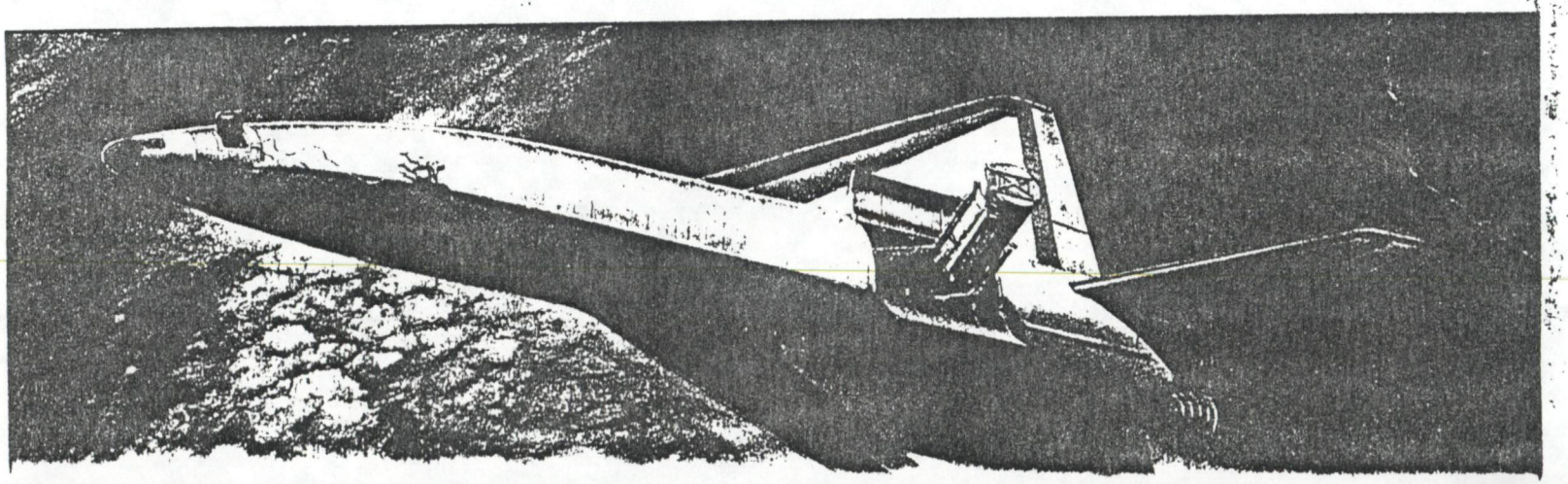

irms To Help Restore Kuwaiti Links

DANIEL J. MARCUS
d RENEE SAUNDERS
ace News Staff Writers

WASHINGTON — Iraq's sev-month occupation of Kuwait s wreaked havoc on Kuwait's tensive ground-based network r satellite communications, cre- ing lucrative opportunities for reign telecommunications sup- iers, according to U.S. industry ficials.

All of Kuwait's permanent, rge Earth stations that access mmunications satellites have en destroyed or dismantled by aqi occupation forces, accord- g to Jim Sutton, regional mar- eting director for Europe and e Middle East at COMSAT Sys- ms Division here. "The general npression is that the Kuwaiti rth stations have been de-

Reports Question Scientific Merit of Redesigned Station

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should be focused on this one purpose," said the report, which was compiled from discussions with space science experts and an extensive bibliography of previous studies.

The statement by the Space Studies Board, a 26-member panel of scientists, engineers and researchers, acknowledged that "there are national considerations for building a space station other than science," such as education and international prestige.

The staff of the White House National Space Council, chaired by Quayle, will meet March 18 to discuss the reports. "Anything the National Academy of Sciences has to say is of interest to the council," an administration source said.

Space officials last week debated whether the scientists' pronouncements would work to the detriment of the station. A key congressional staffer said the two papers will be reviewed by members of the U.S. Congress, "but people with anti-station sentiment using these studies to say 'kill the space station' are engaging in wishful thinking."

Rep. George Brown (D-Calif.), chairman of the House Science, Space and Technology Committee, told *Space News* that the reports do not weaken his commitment to the space station. "A vigorous, permanent [U.S. space] program" requires a space station, he said.

The science reports do make it more likely that Congress will consider funding complementary systems like free-flying microgravity experiment satellites or laboratories tethered to the station, Brown added.

NASA undertook the latest redesign of the space station in response to guidance from Congress last October to save $6 billion from the space agency's expected station budgets over the next five years.

In response, NASA was forced to delay by six months the stage when the outpost would first be useable for crew-tended science experiments, until late 1996. In addition, the phase when a crew would begin living full-time at the station was delayed by two years until late 1999. The size of this permanent crew was cut from eight astronauts to four.

In a March 15 statement, Lennard Fisk, NASA's associate administrator for space science, said, "we fully expect that as we build this station we will, in time, meet the requirements of the principal scientific research for which it was intended."

Under guidance from Congress, NASA has emphasized that the early crew-tended visits are an ideal time for doing sensitive materials science experiments.

However, the OSTP report claims that "many of the primary microgravity experiments cannot be conducted during periods when astronauts are assembling or inhabiting the station." The science adviser's report concludes that "microgravity materials research is, at most, incidental to the space station."

Therefore, the report urges that life sciences research be maximized. It also suggests that a centrifuge large enough for humans to use for studies of the effects of various levels of gravity be added to the design and given a high priority.

Before the restructuring exercise, NASA planned to install a 2.5-meter (8.25 foot) diameter centrifuge in a station node to hold plants and small animals. This centrifuge was the larger of two models under study and should survive the restructuring, in an undetermined location, according to Robert Rhome, NASA assistant associate administrator of space science for space station. Humans would require a four- to 10-meter centrifuge.

Rhome said microgravity levels and electrical power supplies for experiments on the restructured station are equal or better than before.

William Taylor, NASA's chief scientist for the space station, said a human-sized centrifuge will be necessary for research before astronauts venture to Mars. One could be added on a later version of the station, he added, but a station completely dedicated to life sciences "does not make scientific or political sense" because microgravity experiments and external instruments attached to the outpost can be accommodated "at a small extra cost."

However, the Space Studies Board statement noted that the monthly cost of constructing the space station roughly equals NASA's 1991 budget for life sciences and microgravity research combined. The board concluded that most microgravity science could be better served "at a fraction of the cost through an expanded program of [space shuttle] Spacelab missions and [satellite] free-flyer experiments."

Firms Seek To Aid Ransacked Kuwaiti Communications Links

KUWAIT, From Page 1

wards electronics was to cart away everything they could from the country," he said. "The equipment wasn't taken away in a rational manner."

Forecast International completed a study in early March, called "Beyond the Gulf: A Review of the Political, Economic and Military Impact of the Persian Gulf War," that projected repairs to Kuwait's telecommunication system will cost about $9 billion.

Baranaukas said almost no international satellite communica-

waiti government has established an office to manage the Kuwait Emergency & Recovery Program here. Officials at that office also could not be reached by telephone or in person for an interview.

Sutton said the Kuwaiti government is unlikely to begin large-scale rebuilding of these Earth stations for several months. By that time, the government of Kuwait will have regained full administrative control over the country.

Tony Trujillo, Intelsat's spokesman in Washington, said the Ku-

porary international transmissions over Intelsat satellites, according to Andy Myers, manager of AT&T's corporate media relations.

By March 17, the company will have made 720 telephone lines available for international calls out of Kuwait. Of these lines, 320 are dedicated for U.S. military use, Myers said. AT&T intends to provide incoming service, but does not have a date for when the service will start.

The AT&T-manufactured ground stations, which transmit to the Intelsat communications

MCI Corp. also is negotiating with the Kuwaiti government to provide emergency and permanent telecommunications equipment there, according to Jane Levene, manager of marketing communications for the company's international office in Rye Brook, N.Y.

She would not disclose details of the discussion or when they will be completed.

MCI continues to operate a portable telephone unit that transmits calls out of Saudi Arabia via satellites operated by Intelsat. It provides international telecommunications service for

tracts for telecommunication officials from the remote-sensi industry expect that the Kuwa government will purchase ima ery of Kuwait generated by sat lites to help in the reconstructi effort.

SPOT Image Corp., the U. subsidiary of the French remot sensing firm SPOT Image of To louse, France, expects orde from construction compani working in Kuwait and the cou try's emergency recovery pr gram, according to a SPO official.

Following the Iraqi invasion