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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

DEC 8 - 1970

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Dear Mr. Thompson:

RELEASED

Pursuant to your request of August 21, 1970, we have examined into certain matters relating to the design specifications for windows in low-rent housing projects administered by the Atlanta Housing Authority (Authority), Atlanta, Georgia, under the low-rent public housing program of the Department of Housing and Urban Development (HUD).

On September 2, 1970, we were advised by your office that you were concerned with the type of glazing bead specified for windows in low-rent housing projects in Atlanta. The design specifications for 14 low-rent projects--completed or under construction--required windows with a snap-in-type glazing bead rather than a wraparound glazing bead.

We examined into the following matters which you called to our attention. These matters were (1) whether the Authority's window design specification eliminated competition and thus precluded a number of major window manufacturers who supply windows to HUD-financed projects, in other cities, as well as local window manufacturers, from bidding on Authority projects, (2) whether this design specification increased the cost of projects, and (3) whether broken window glass could be replaced more economically because of this design feature.

We reviewed pertinent records of the Authority and the design specifications for windows in nine low-rent housing projects; obtained cost information from a private window supplier; and held discussions with Authority and HUD officials and with the president of the Southern CF Company, a local window manufacturer.

In summary, we concluded (1) that the design specifications did not preclude competition, since a number of firms manufacture windows with snap-in glazing beads, (2) that on the basis of manufacturers' prices, windows with snap-in glazing beads did not increase the construction cost, and (3) that the use of such windows, because of the ease of replacement, could result in reduced maintenance costs over the life of the project. Additional information revealed by our examination follows.

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COMPETITION NOT RESTRICTED
BY DESIGN SPECIFICATIONS

Two methods used by local housing authorities to provide low-rent housing are (1) the conventional method, whereby the local housing authority acquires a site, develops plans and specifications, and advertises for competitive bids from private contractors and (2) the turnkey method, whereby proposals are solicited from developers for providing the entire project, including preparation of plans and specifications, selection and acquisition of a site, and construction of the housing project. An Authority official stated that the Authority does not obtain bids on windows and similar individual items but leaves it to the discretion of the general contractor to purchase windows from whatever sources it desires, provided that the windows meet the design specifications.

The design specifications for the nine projects covered by our review required windows with snap-in glazing beads, rather than wraparound-type glazing beads. In some instances, the specifications listed three or more manufacturing firms whose products would be accepted by the Authority. The specifications provided that windows manufactured by other firms that substantially compare with the types of windows manufactured by the listed firms would also be acceptable. According to HUD officials, when the names of specific suppliers are shown in the specifications, the names of only three manufacturers are required to ensure adequate competition.

We were advised by an Authority official that, of the 30 low-rent housing projects in Atlanta, 14 had windows with snap-in-type glazing beads and the remainder had old-style windows with putty glazing. HUD officials stated that their primary concern was that the windows placed in low-rent housing projects meet certain quality standards stated in the Architectural Aluminum Manufacturers Association Specification HS-A2. These standards involve quality of materials; construction; and performance requirements, such as air infiltration, water resistance, and structural strength.

The executive director of the Authority had stated that the basic consideration, beyond the consideration of strength, in determining what type of window should be used was the ease with which such windows could be replaced and that windows using snap-in-type glazing could be replaced quickly by semiskilled employees. He stated also that, since window breakage was on the increase, it amounted to

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a major problem with the Authority and that he felt that the Authority must conserve dollars and man-hours by selecting a window that afforded ease of replacement.

We discussed the matter of competition with the president of the Southern GF Company who stated that, although the requirement for windows with snap-in-type glazing beads did not eliminate competition on the windows, it restricted competition in that the Southern GF Company did not manufacture a window with snap-in-type glazing bead. The company had tried, unsuccessfully, to get the Authority to change the specifications for low-rent housing projects to allow the wraparound-type glazing bead.

Concerning the use of unduly restrictive specifications, our office has held that the drafting of procurement specifications to reflect the requirements of the Government and the factual evaluation of the conformability of equipment offered by bidders to the specifications is primarily the responsibility of the administrative agency and that, in the absence of evidence the specifications preclude all but the successful bidder from meeting the requirements, the specifications may not be regarded as restrictive of competition. (See 36 Comp. Gen. 251.)

An architectural catalog file, prepared by Sweet's Construction Catalog Service, listed at least 18 firms that manufacture aluminum windows. Of these 18 firms, 13 manufacture windows with the snap-in glazing bead and five manufacture windows with wraparound glazing bead.

In view of the above, we believe that the window design specifications would not be considered restrictive because (1) the Authority believed that snap-in glazing beads were necessary to meet its requirements of ease of replacement and (2) a number of firms manufacture windows with snap-in glazing beads.

SNAP-IN GLAZING BEADS
DO NOT INCREASE PROJECT COSTS

On the basis of prices obtained by a HUD official from the H. L. Weiss Company, an Atlanta-based agent for 30 firms that manufacture windows, we determined that the estimated total cost of windows, with extruded aluminum interior snap-in glazing bead,

specified for project GA. 6-24 was about \$39,554, whereas the total estimated cost for windows with wraparound glazing beads for the same project was about \$40,923, or about \$1,369 more.

The president of the Southern GF Company could not furnish us with an estimated cost of windows with wraparound glazing beads for project GA. 6-24, since his company had not prepared a bid estimate for the project's windows. He stated that, because the Southern GF Company was Atlanta-based, it might be able to quote a lower price for windows to the general contractor who, in turn, might quote an overall lower price for the total project. He stated that, if other suppliers knew that his company was unable to bid on the windows to the general contractor, they would quote higher prices.

SNAP-IN GLAZING BEADS REQUIRED
BECAUSE OF EASE OF REPLACEMENT

Although there apparently is little difference between the initial cost of the two types of windows, there is, over the life of a project, the potential for substantial savings in time and cost to replace broken windowpanes with windows with snap-in glazing beads. According to Authority officials, the replacement of broken windows is a major problem and a major maintenance cost on low-rent housing projects.

In the 10-1/2 month period from December 1969 through mid-October 1970, the Authority purchased 8,704 windowpanes for replacement of broken windows. The maintenance superintendent of Atlanta project GA. 6-28 with 500 units having windows with snap-in-type glazing bead advised that about 140 windowpanes were being replaced each month on that project. Each unit has from 12 to 17 windows, or a project total of 8,500 windowpanes. He stated that there were two maintenance mechanics, whose salaries range from \$130 to \$160 a week who work full time replacing broken windows and screens on this project. He advised us also that it took about 6 to 8 minutes to replace a window glass using the snap-in-type glazing bead. A maintenance mechanic who works full time on Atlanta project GA. 6-12 also estimated that about 6 minutes was required to replace a broken window glass using the snap-in-type glazing bead.

In contrast, an official of the M. L. Weiss Company estimated that it would require about 20 to 30 minutes to replace a broken glass in a window using the wraparound glazing bead. The difference was due to the

fact that, with the wraparound glazing bead, the sash must be removed from the window frame and disassembled at all four corners; the broken glass, if any, must be removed; the wraparound glazing bead must be removed from the sash and placed around the new glass; and the sash must be reassembled and placed back into the window frame. It appears that this procedure is more time-consuming than is replacement of glass in windows using the snap-in beading, where the maintenance mechanic, using a screwdriver or similar tool, removes the snap-in glazing bead, places the new glass in the sash, and snaps the extruded aluminum glazing bead back in place.

The president of the Southern CF Company stated that he did not know how long it would take to replace a broken windowpane using wraparound glazing beads, because he had never replaced such a window or timed the process. The Authority's files showed that the Southern CF Company had requested that its own windows be subjected to a field test. Since the Southern CF Company was supplying windows for Atlanta project GA. 6-31 in accordance with specifications which required windows with snap-in glazing beads, the Authority determined that the field test of the Southern CF Company's windows would serve no useful purpose. According to the Southern CF Company's president, the windows for Atlanta project GA. 6-31 were purchased by his firm from a manufacturer in Miami, Florida.

We noted, however, that the Authority subsequently had agreed to allow the Southern CF Company to test its window alongside of one of the windows now being used on Authority projects. The test is primarily to compare the time required to replace a broken windowpane in windows having different glazing methods. On October 16, 1970, the Southern CF Company's president informed us that the test would be held in about 2 months and that two or more Authority maintenance mechanics would carry out the demonstration. This test should be helpful in substantiating or refuting the Authority's position that windows with snap-in glazing beads are easier to replace.

We did not obtain formal written comments from any of the parties involved in the matters discussed in the report.

We have notified the Secretary of Housing and Urban Development of the subject and release date of the report; however, we plan to

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make no further distribution of this report unless copies are specifically requested, and then we shall make distribution only after your agreement has been obtained or public announcement has been made by you concerning the contents of the report.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "James B. Peck".

Comptroller General
of the United States

The Honorable Fletcher Thompson
House of Representatives