From: Michael Rosen, Product Manager, The Chicago Faucet Company

To: Mehernaz Polad, IFC consulting

I am writing on behalf of The Chicago Faucet Company regarding the expansion of the US Environmental Protection Agency (EPA) ENERGY STAR program to include commercial dishwashing pre-rinse spray valves. Chicago Faucets is a leading provider of commercial faucets and fittings in the United States. We are also an existing manufacturer of pre-rinse spray valves.

We at Chicago Faucets support the inclusion of the pre-rinse spray valves in the ENERGY STAR program but have serious concerns about the cleanability evaluation in the proposed eligibility criteria. Chicago Faucets has performed the ASTM F2324-2003 *Standard Test Method for Prerinse Spray Valves* in our own laboratory and found the results to be subjective, not repeatable and unreliable. There are many variables that affect cleanability that are not accounted for in the test procedure.

The Plumbing Manufacturer's Institute (PMI) has also done testing to ASTM F2324 and found similar problems. Some of the variables PMI found include:

- Tomato paste/sauce:
  - The most important part of the cleanability test is the test media. In this case, it is tomato sauce made from tomato paste. The standard only requires that the paste be pure with a moisture content of 70 ± 2.5%. It does not specify a type of paste (Note 2 suggests two types of generic brands). This is a big concern since substantial variation exist between each brand of paste (generic or not) in consistency, particle size and moisture content. To compound the problem further, paste consistency, particle size and moisture content varies from container to container of the same tomato paste.
  - The standard doesn't specify room conditioning requirements for the cleanability test. Although the tomato paste (before mixing into a sauce) and the plates are required to be stabilized at room temperature, there are no requirements for controlling humidity during the mixing and drying of the tomato paste and cleaning of the plates. Humidity impact sauce adhesion and remove time.
- Test Plate - The standard requires white glazed plates. It doesn't specify the shade of white or the surface finish characteristics. The color is important because a subjective visual inspection is required to determine cleanliness and a consistent color contrast between the tomato paste and plate is necessary. The quality of the glazed surface (i.e. glaze thickness, proper glaze fusion, glossy or matte finish, etc) plays a significant role in the adhesion of paste and the time it takes to remove it.
- Dish racks – Dissimilar plate types sit differently in the drying and cleaning racks. This can cause plates to sit at different angles, which can alter test results.
- Testing apparatus – A large potential for huge human error is introduced because the test apparatus lacks a means to hold the spray nozzle at the same distance and angle during the test. Additionally, the test method fails to specify the speed of the back and forth motion of the spray nozzle during the plate cleaning process. The test method relies on the lab technician's ability to consistently hold the spray nozzle at the specified distance and angle, while moving it back and forth action at consistent speeds. Without a

means to ensure that the spray valve is positioned at precisely the same location and moved at consistent speeds for each test makes, it is impossible to obtain reliable results from one technician to another and from one lab to another.

- Visual verification – The standard fails to provide measures to assist the technician in consistently measuring cleanliness. The standard only states that the test plates are to be sprayed until all the tomato sauce has been removed. Compliance is determined by visual verification and subject to interpretation and human error. Variables such as light conditions, plate color, technician's height and eyesight can influence the outcome of the test.

Currently only one manufacturer can provide a 1.6 gallon per minute pre-rinse spray. The EPA should be careful not to give unfair advantage to a specific manufacturer. The proposed August 1, 2005 effectivity date gives manufacturers very little time to produce a compliant product before the implementation. We propose changing the effectivity date to October 1, 2005 or later.

In conclusion, Chicago Faucets supports the inclusion of 1.6 gpm pre-rinse spray valve in the ENERGY STAR program with the following recommendations:

- Remove ASTM F2324 from the proposed eligibility criteria
- Change the effectivity date to October 1, 2005.

Thank you for your consideration.

Sincerely,

Michael Rosen
Commercial Product Manager