



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATING TO THE PROPOSED USE OF ALTERNATE FACEPIECES
WITH THE CHEMEX RESPIRATORS
AT THE BEAVER VALLEY POWER STATION, UNIT NOS. 1 & 2
DOCKET NOS. 50-334 AND 50-412

1.0 INTRODUCTION

By letter dated September 21, 1992, as supplemented by letter dated June 7, 1994, Duquesne Light Company (the licensee) requested NRC approval to use alternate silicone facepieces with the Chemox respirators at the Beaver Valley Power Station. The Beaver Valley Power Station, Units 1 and 2, use the Chemox respirator as one respirator option in its respiratory protection program required by 10 CFR Part 20 Subpart H.

2.0 EVALUATION

The Chemox respirator system, manufactured by Mine Safety Appliances Company of Pittsburgh, Pennsylvania (MSA), is an oxygen-generating self-contained breathing apparatus. The Chemox respirator was originally approved for use by the former Bureau of Mines and to date has had a certification for use extended to it by the current National Institute For Occupational Safety and Health/Mine Safety and Health Administration (NIOSH/MSHA). In accordance with 10 CFR 20.1703(a)(1), Beaver Valley uses only respiratory equipment that has been certified, or had certification extended, by NIOSH/MSHA. However, as originally approved, the Chemox respirator system was supplied with only a medium size facepiece. Recently, MSA has made available a silicone rubber facepiece in a range of sizes intended for use with the Chemox system. Since these facepieces were not included in the original Bureau of Mines approval, their use with the Chemox system would void the certification extended by NIOSH/MSHA. Therefore, the licensee requests, in accordance with the provisions of 10 CFR 20.1703(a)(2), approval for the use of these "non-certified" respirators.

The manufacturer's description and part number (P/N) of the facepieces subject to this request are as follows:

<u>P/N</u>	<u>Description</u>
805452	Medium, Silicone Ultravue Facepiece for the Chemox Apparatus
805453	Small, Silicone Ultravue Facepiece for the Chemox Apparatus
805454	Large, Silicone Ultravue Facepiece for the Chemox Apparatus

The licensee's September 21, 1992, submittal enclosed a letter from MSA documenting the performance testing of a Chemox apparatus fitted with a silicon Ultravue facepiece. Based on the result of their metabolic simulator testing, the manufacturer concluded that there was "no adverse effect from the change in facepiece size and material" on the Chemox respirator performance. Additional information supporting the acceptability of these silicone facepieces was also supplied. In the June 7, 1994, submittal, the licensee provided the NIOSH/MSHA testing and certification numbers of several respirator systems, manufactured by MSA, that employ facepieces "of the same construction" as those subject to this request. Note that the Ultravue facepieces listed above are customized to mate with the Chemox apparatus air supply and return hose coupling.

3.0 CONCLUSION

The NRC staff concludes that the availability of a range of facepiece sizes for the Chemox respirator will greatly improve the ability of the user to obtain a proper fit, making it more likely that the applied protection factor, or greater, will actually be experienced during the respirators use. Based on the manufacturer's performance testing and supplemental information, the staff finds that the use of the silicone Ultravue facepieces listed above with the Chemox apparatus, as otherwise configured in the original Bureau of Mines approval, is acceptable to limit the intakes of licensed material pursuant to 10 CFR 20.1702(c). This approval does not apply for emergency use and in no way modifies the requirement in 10 CFR 20.1703(c) that licensees use as emergency devices only respiratory protection equipment that has been specifically certified or had certification extended for emergency use by NIOSH/MSHA.

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