waste can be injected only under two circumstances:

(1) When the waste has been treated in accordance with the requirements of Title 40 of the Code of Federal Regulations (40 CFR) Part 268 pursuant to Section 3004(m) of RCRA, (the EPA has adopted the same treatment standards for injected wastes in 40 CFR Part 148, Subpart B); or

(2) When the owner/operator has demonstrated that there will be no migration of hazardous constituents from the injection zone for as long as the waste remains hazardous. Applicants seeking this "no-migration" exemption from the ban must demonstrate to a reasonable degree of certainty that hazardous waste will not leave the injection zone until either:

(a) The waste undergoes a chemical transformation within the injection zone through attenuation, transformation, or immobilization of hazardous constituents so as to no longer pose a threat to human health and the environment; or

(b) The fluid flow is such that injected fluids will not migrate vertically upward out of the injection zone, or laterally to a point of discharge or interface with an USDW, for a period of 10,000 years.

The EPA promulgated final regulations on July 26, 1988, (53 FR 28118) which govern the submission of petitions for exemption from the disposal prohibition (40 CFR Part 148). Most companies seeking exemption have opted to demonstrate waste confinement (option (b) above) rather than waste transformation (option (a) above). A time frame of 10,000 years was specified for the confinement demonstration not because migration after that time is of no concern, but because a demonstration which can meet a 10,000 year time frame will likely provide containment for a substantially longer time period, and also to allow time for geochemical transformations which would render the waste immobile. The Agency's confinement standard thus does not imply that leakage will occur at some time after 10,000 years, rather, it is a showing that leakage will not occur within that time frame and probably much longer.

The EPĀ regulations at 40 CFR § 148.20(f) provide that any person who has been granted an exemption to the land disposal restrictions may request that the Agency modify the exemption to include additional wastes. If the EPA determines, to a reasonable degree of certainty, that the new wastes will behave hydraulically and chemically in a manner similar to previously exempted wastes and that injection thereof will not interfere with the containment capability of the injection zone, the modification may be granted.

Neither the existing exemption from the restrictions of the HSWA to RCRA nor this modification exempts BPCI from the duty to comply with other laws or regulations.

B. Facility Operation and Process— The BPCI facility in Lima, Ohio, produces acrylonitrile and associated products. The process combines propylene, ammonia, and air in the presence of a catalyst to form acrylonitrile, acetonitrile, and hydrogen cyanide. Process waste waters, laboratory wastes, contaminated product, wash water, cleaning solutions, contaminated ground and storm waters, scrubber water, ammonia blowdown, and waters from the unloading sump are managed through a deep well disposal system.

The waste stream is currently injected into WDWs No. 1, 2, 3, and 4 which are Class I hazardous-waste injection wells completed for the disposal of liquid wastes in one or more of the Middle Run, Mt. Simon, and Eau Claire Formations which are found between the depths of 3,223 and 2,430 feet in WDW No. 4. Injection of wastewater averages 435 gallons per minute (gpm); recently, BPCI has disposed of 150 to 250 million gallons per year.

The Hampshire Chemical process reacts hydrogen cyanide to produce nitrilotriacetonitrile (NTAN), iminodiacetonitrile (IDAN), ethylendiamine tetracetonitrile (EDTN), propylendiamine tetracetonitrile (PDTN), dimethylhydantoin (DMH), methylethylhydantoin (MEH), and oleoylsacosinate. The processes also produce water and result in waste streams which are hazardous as a result of corrosivity (D002) and contain acetone cyanohydrin which, if commercially produced and then land disposed, would be a restricted waste bearing the code P069.

In addition to waste constituents for which BPCI has already received or requested exemption, the Hampshire waste stream contains methyl ethyl ketone which will be banned from underground injection as a result of promulgation of the final Phase III Land Disposal Restrictions rule which is expected in January of 1996. In order to promote efficiency, Region 5 has reviewed BPCI's demonstration of the ability of the injection zone to contain migration of methyl ethyl ketone. Based on this review, Region 5 has determined that if the health-based limit for methyl ethyl ketone remains at a level as low as 0.6 mg/l, then U.S. EPA will process

a final modification granting the exemption for methyl ethyl ketone as D035 on or before the ban date established by the final Phase III rule. If the health-based limit is reduced from 0.6 mg/l, modification of the exemption must be reconsidered.

Although acrylamide in the waste is deemed exempted as a constituent of the process wastes which carry K011, K013, and K014 codes, BPCI requested clarification of its exemption to specifically include acrylamide because the migration of this constituent at hazardous levels defines the extent of the waste-plume. BPCI requested that a modification of the exemption to include P030, P101, U056, and U219 because it wanted to dispose of possible spills of such laboratory chemicals on site. The remaining waste codes which are the subject of BPCI's modification request allow BPCI flexibility to dispose of wastestreams from new process lines which use raw materials or by-products of the principal processes.

C. Exemption—The existing exemption allows BPCI to dispose of wastes through its four wells. The specific waste codes are listed in the Federal Register notice dated March 12, 1993 (57 FR 8753). This modification will simply add a number of waste codes to the existing exemption, so that BPCI may also dispose of the wastes containing the following constituents when denoted by the respective RCRA waste codes: cyanide salts, P030; acetone cyanohydrin, P069; propionitrile, P101; vanadium pentoxide, P120; acrylamide, U007; cyclohexanone, U056; malononitrile, U149; 2 methyl pyridine, U191; and thiourea, U219. A final modification allowing disposal of methyl ethyl ketone (D035) upon the date of its restriction from underground injection will be processed as described above.

D. Submission—On July 13, 1994, February 10, 1995, and June 12, 1995, BPCI submitted requests and supporting documentation to modify its existing exemption from the land disposal restrictions on hazardous waste disposal. The submissions were reviewed by staff at the EPA. Although BPCI requested on May 9, 1995, that the modification include all D-coded wastes which would become restricted by a forthcoming rule, this request was withdrawn on June 7, 1995.

II. Basis for Determination

A. Waste Description and Analysis— Compatibility testing showed that the wastes are chemically compatible although some mixtures do cause formation of precipitates. This will be controlled to some extent through the