FINAL STATEMENT OF REASONS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DIVISION OF THE STATE ARCHITECT (DSA-SS)
REGARDING PROPOSED AMENDMENT OF THE
2007 CALIFORNIA PLUMBING CODE (CPC) FOR THE
CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 24, PART 5

The Administrative Procedure Act requires that every agency shall maintain a file of each rulemaking that shall be deemed to be the record for that rulemaking proceeding. The rulemaking file shall include a final statement of reasons. The Final Statement of Reasons shall be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action:

UPDATES TO THE INITIAL STATEMENT OF REASONS

The initial Statement of Reasons has been updated as indicated in this Final Statement of Reasons document.

1. Table 4-1, preamble, has been changed to delete minimum exiting requirements as the determination of occupant load for the purpose of calculating the number of required plumbing fixtures.

Rationale for Necessity: This requirement was included in error by the publisher, who took an action to delete it in an interim amendment to the 2006 Uniform Plumbing Code. It was in conflict with the requirement to use Table A for such calculations.

2. The Initial Statement of Reasons cited a California Environmental Quality Act (CEQA) final environmental impact report (EIR) as the document upon which DSA would rely in its plumbing code proposals relating to cross-linked polyethylene (PEX). That document and its various draft versions may be found at http://www.bsc.ca.gov/pex.htm .

TABLE 6-4, footnote 2 has been added to require that PEX be sleeved by an approved material when installed in the soil.

Rationale for Necessity: The proposed change reflects concerns identified in the EIR relating to permeation of chemicals when PEX is installed in soil. The proposed change provides clarity to the code user.

TABLE 6-4, footnote 3: DSA is proposing to require PEX to meet NSF P171 CL-R test standard or the recently approved ASTM F 876-08 test standard for the testing of PEX.

Rationale for Necessity: The proposed change reflects concerns identified in the EIR relating to the use of PEX in continuously recirculating hot water systems. The proposed change provides clarity to the code user.

MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS

DSA has determined that the proposed regulatory action would not impose a mandate on local agencies or school districts. Thus, the mandate does not require reimbursement pursuant to Part 7 (commencing with section 17500) of Division 4, Government Code.

SIGNIFICANT DECISION

When considering adoption of building standards, such as PEX, the agencies must review all relevant information relating to the proposed standard including approvals by recognized testing and listing agencies. DSA does not believe that standards approved in a national model code must also go through the CEQA process, however, based on information received during previous code adoption cycles a decision was made to consider PEX as a “project” under CEQA guidelines. Therefore, an EIR was conducted to consider all potential environmental impacts this product may have on California’s environment.
The decision to propose the adoption of PEX with amendments during this code adoption cycle is based on and supported by the EIR. All comments relating to the environmental impacts are addressed in the Final EIR other comments relevant to the regulatory are addressed in this document.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).
The following is a summary of and response to comments received during the comment periods specifically directed at the proposed actions or to the procedures followed by the agency in proposing or adopting the actions or reasons for making no change.

Oral Comments Received during the November, 2007 Public Scoping Meetings for the PEX Piping CEQA/ EIR:

COMMENTERS: Over the course of seven meetings held in November, 2007 throughout California to gather information concerning the content of EIR, forty-eight speakers representing a variety of interests commented. The commenters asked that their comments be included in the record for the regulations as well as for the EIR process. The commenters spoke in support of PEX's being allowed as an option in California, and their comments were also considered in the preparation of the EIR.

RESPONSE: DSA acknowledges the comments, noting that they support the proposed regulations.

Public Comments Received on CBSC PEX Piping Proposals during 45 Day Comment period March 28, 2008 – May 12, 2008 (first 45 Day Comment Period):

1.1 COMMENTER: Adams Broadwell Joseph & Cardoza representing the ***California State Pipe Trades Council***

1) The commission must disapprove or require further study of the proposed PEX and PEX-AL-PEX amendments until a legally adequate EIR is completed.

2) Preparation of an EIR is required prior to adoption of the proposed PEX and PEX-AL-PEX amendments.

3) The proposals to approve PEX fail to meet at least two of the Nine-Point Criteria

a) Approval of PEX and PEX-AL-PEX without first completing a legally adequate EIR would not be in the public interest in ensuring informed self-government and in protecting public health and safety and the environment.

b) Approval of PEX and PEX-AL-PEX without first completing a legally adequate EIR would be unreasonable, arbitrary and unfair as proposing adoption of building standards in a manner contrary to law and without full disclosure, evaluation and mitigation of evident impacts.

CONCLUSION
Substantial evidence has been submitted to DSA demonstrating that approval of the proposed PEX and PEX-AL-PEX amendments may result in significant impacts on public health and the environment. Such impacts include contamination of drinking water due to leaching and permeation, premature degradation and failure, increased risk of Legionella, increased solid waste disposal impacts and increased fire hazards. Full compliance with CEQA is necessary to disclose the extent of these potential impacts and to consider alternative pipe materials and mitigation measures.

RESPONSE: PEX has been reviewed, tested, and listed by approved national testing agencies and has been included in the national model codes. In addition to consideration of these approvals and prior to DSA's adoption of the proposed changes to the CPC regarding the use of PEX, DSA is proceeding through a process of full compliance with CEQA, including the completion and adoption of a legally adequate EIR. Please refer to the FEIR for any concerns relating to environmental impacts of PEX.

DSA believes that it is in the public's interest to adopt a standard (point three of the nine-point criteria) that has been reviewed through the CEQA EIR process and all measures found within the EIR have been addressed in the proposed regulations.

DSA believes that the proposed regulations are not unreasonable, arbitrary, unfair, or capricious to adopt a standard (point five of the nine-point criteria) that has been reviewed through the CEQA EIR process and all measures found within the EIR have been addressed in the proposed regulations.

PEX-AL-PEX is not part of the EIR, because the building standards regarding the use of PEX-AL-PEX are not being changed. Therefore, comments relating to this product are not relevant to the proposed changes.

1.2 COMMENTER: Michael Cudahy, representing ***Plastic Pipe and Fittings Association (PPFA)***

PPFA supports the statewide approval of PEX and the full adoption of the model plumbing code. We believe that full adoption is the proper course of action so a level playing field exists for all materials and participants in the building industry. Any unwarranted, politically motivated, or special interest restriction in the California State Code negatively impacts the public, interstate commerce and builders by limiting choices of materials and likely increases project cost. Plastic piping materials are safe, energy and water saving materials that simply out-perform alternatives at lower installed costs and there is no reason to limit their application.

The full statewide adoption of hot and cold-water distribution plastic piping systems would provide environmental benefits to California such as less copper discharge, energy and water savings over legacy systems such as copper tube, all at a lower installed cost for consumers.

California agencies and groups concerned with copper accumulating in bodies of water and harming the ecosystem, such as Bay Area Clean Water Agencies and Bay Area Pollution Prevention Group, have suggested using non-copper pipe where permitted.

1 The Palo Alto Regional Water Quality Control Plant has estimated that approximately 71% of the copper discharged from the RWQCP into the San Francisco Bay comes from corrosion of copper pipes and cooling equipment in homes and businesses. As early as 1997, they indicated a possible corrective action would be to ban the use of copper pipe in new buildings.

2. Numerous energy and water savings studies of plastic and copper piping such as “Evaluation of Residential Hot Water Distribution Systems by Numeric Simulation” produced for the California Energy Commission by Oak Ridge Labs, indicated adoption would be beneficial for California in terms of energy and water savings.

> **RESPONSE:** DSA acknowledges the commenter’s support of a statewide adoption of PEX. PEX has been reviewed, tested, and listed by approved national testing agencies and has been included in the national model codes. In addition to consideration of these approvals and prior to DSA’s adoption of the proposed changes to the CPC regarding the use of PEX, DSA is proceeding through a process of full compliance with CEQA, including the completion and adoption of a legally adequate EIR. Please refer to the FEIR for any concerns relating to environmental impacts of PEX.
>
> While the environmental impacts of copper pipe and other materials approved in the CPC, these impacts are not relevant to the proposed adoption of PEX in the regulatory process.

1.3. COMMENTER: G. Lancaster, plumbing specialist with the City of Santa Barbara

I was wondering about where we are on this issue. With the price of copper so high, stopping the use of P.E.X. piping for potable water distribution is almost impossible. A plumber told me today that materials cost alone are causing him to lose a lot of bids to plumbers who are using P.E.X. I feel it is a little unfair to put the inspectors in the position of being consumer affairs watchdogs on an issue that is out of control. It is very easy to purchase these parts at every plumbing shop in the area. It is impossible for us to stem this tide. If we harden our stance, then they work without permits; does this make any sense?

I would like to know when we would get resolution on this issue. As inspectors, we have just about given up trying to do the 'right thing' and following California Building Standards when this piping is available worldwide.

> **RESPONSE:** While the comments are not directed to a specific code section proposed, DSA is proceeding through a process of full compliance with CEQA, including the completion and adoption of a legally adequate EIR. Please refer to the FEIR for any concerns relating to environmental impacts of PEX.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).

Public Comments Received on CBSC PEX Piping Proposals during the DEIR public comment period: May 9, 2008 – June 23, 2008:

COMMENTERS: John and Lori Silva, ***homebuilders***; Steven R. Hartshorn, President, ***Orange Pacific Plumbing***; Kim A Neilsen, Operations, ***Griffin Industries***; Richard Shields, CBO, ***City of Grand Terrace***; Glen Freyermuth, Vice President, ***Granite Homes***; John Zlomek, COO, ***Saber Plumbing***; Purna Prasad, Director, Clinical Technology and Biomedical Engineering, ***Stanford Medical Center***; Tobin T. Whitt, CEO, ***Pacific Production Plumbing***; Mark Pulver, Purchasing Manager, ***Warmington Homes***; Wayne Taylor, General Manager, ***Golden West Plumbing, Inc.***:

Commented in support of the PEX regulations, and "strongly encourage the adoption of PEX tubing into the California Plumbing Code".

RESPONSE: DSA acknowledges the comments, noting that they support the proposed regulations.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).

Public Comments Received on CBSC PEX Piping Proposals during 15 Day Comment period May 30, 2008 – June 16, 2008 (first 15 Day Comment Period):

DSA received no comments during this period.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).

Public Comments Received on CBSC PEX Piping Proposals during 45 Day Comment period: July 11, 2008 -- August 25, 2008 (second 45 Day Comment Period):

2.1 COMMENTERS: Neil Bogatz, General Counsel, and Thomas Enslow, Adams Broadwell Joseph Cardozo on behalf of ***International Association of Plumbing and Mechanical Officials (IAPMO)***

Mr. Bogatz and Mr. Enslow note that it is important to emphasize at the outset that IAPMO takes no position on the substance of the Commission's Proposed Amendments addressing the use of PEX pipe in California.

They write instead to offer a technical objection to the form of the Commission's Proposed Amendments. Specifically, IAPMO objects to the proposed designation of a particular Listing Agency, i.e., NSF International, to perform the conformity assessment certification contemplated by the Proposed Amendments. We believe that a regulation mandating product certification by a single, designated Listing Agency is unprecedented in the California Building Standards Code, serves no legitimate policy rationale, is unnecessarily narrow and may violate the California Constitution's prohibition against "special statutes."

They offer an amendment to the proposed PEX regulations to substitute "certification by an accredited third party Listing Agency" for "NSF certification" where it occurs.

CBSC staff has indicated that the special designation of NSF may have arisen over a concern that different Listing Agencies may use varying testing protocol to determine compliance with the supplemental California leaching standards. This concern, however, does not support the selection of NSF as the sole-designated Listing Agency. If testing protocol is, in fact, a concern of the agencies, such a concern may be better addressed by the addition of the following requirement to Section 604.1:

> "Testing protocol for certification to meet the relevant California Maximum Contaminant Level (MCL), secondary MCL, notification, or Safe Harbor level or other applicable Proposition 65 levels shall receive approval by the California Department of Public Health prior to certification by an accredited third party Listing Agency for human consumption uses in California".

RESPONSE: DSA has revised footnote[3] to read "PEX tubing shall meet the requirements of NSF P171 CL-R, ASTM F 876-08 or an equivalent or more stringent standard…" in response to IAPMO's request.
In response to the comment and to information within the EIR, a decision was made to withdraw the portion of Section 604.1 to which the comments refer.

2.2 COMMENTER: Jeremy Brown on behalf of ***NSF International***

NSF supports the addition of PEX Water Piping to the California Plumbing Code. NSF does have editorial suggestions to the current proposed language within 604.1, which we believe will clarify the intent.

> All PEX pipe, tube, and fittings carrying water in potable water systems intended to supply drinking water for human consumption to fixtures and appliances shall also receive NSF certification pursuant to approved test protocols. Certification based on the approved test protocols by NSF shall satisfy the requirement of having normalized concentrations that any leached concentrations of methyl-tert-butyl ether (MTBE), tertiary butyl alcohol (TBA), or California Proposition 65 chemicals identified as potential extractants based on a formulation review of PEX pipe, tube or fittings that are below the relevant California Maximum Contaminant Level (MCL), secondary MCL, notification, or Safe Harbor level or other applicable Proposition 65 level for those chemicals. The tubing shall be physically marked in a manner that indicates the pipe is NSF certified to be in compliance with this section for human consumption uses in California.

The first proposed modification refers to an approved protocol and defines the requirements of the protocol. The term "normalized concentration" is the more relevant to California drinking water criteria than "leached concentration." The leached concentration may vary greatly depending upon the test conditions. The normalized concentration is the value-leached concentration that has been adjusted to reflect the potential contaminant concentration at the tap.

The second change clarifies how the applicable Proposition 65 chemicals will be identified and appropriately focuses the certification to the potential contaminants from PEX and materials within PEX systems.

Lastly, the marking should demonstrate compliance with the specific code requirement rather than the broad concept of human consumption which might imply end uses not addressed by the plumbing code such as beverage dispensing, food dispensing or direct consumption.

> **RESPONSE:** In response to the comment and to information within the EIR, a decision was made to withdraw the portion of Section 604.1 to which the comments refer.

2.3 COMMENTER: Thomas Enslow, Adams Broadwell Joseph Cardozo on behalf of ***California State Pipe Trades Council***

I. The DEIR corroborates many of the concerns that we have long raised regarding this product. including the leaching of methyl tertiary-butyl ether ("MTBE") and tert-butyl alcohol ("TBA") in amounts that greatly exceed the state standards for health, taste and odor, the permeation of PEX pipe by outside contaminants and the potential premature degradation and rupture of PEX pipe. Unfortunately, the DEIR has only partially performed its duties under CEQA. Numerous potential impacts of this Project are simply ignored or are dismissed without foundation.

The Coalition for Safe Building Materials (members include California Pipe Trades Council, the Sierra Club, the Planning and Conservation League, Communities for a Better Environment, the Consumer Federation of California and the Center for Environmental Health), ("the Coalition"), commented in June on inadequacies in the DEIR. Their comments addressed the following concerning PEX piping and fittings:

- Inadequate description of the project;
- Inadequate mitigation of contamination due to leaching of MTBE and TBA;
- Failure to disclose potential impacts of Ethyl tertiary butyl ether ("ETBE") leaching;
- Improper deferral of analysis and mitigation of Proposition 65 chemicals leaching;
- Failure to evaluate the potential for Bisphenol A leaching;
- Inadequate mitigation of the risk of permeation of toxic substances;
- Inadequate mitigation of the risk of failure due to surrounding materials and environmental conditions;
- Failure to evaluate reports of widespread failures;
- Failure to evaluate risk of illness due to more biomass than found in copper or CPVC;
- Failure to evaluate adequately the impacts of solid waste disposal; and
- Failure to evaluate the risk of toxic smoke in building fires.

RESPONSE: The comment is directed towards environmental issues evaluated and analyzed in the EIR. The FEIR has adequately addressed these concerns expressed by the commenter. Interested parties may review the EIR for responses to these concerns. The proposed regulations are reliant upon the EIR, which addressed all potential impacts on the environment that may be caused by the statewide adoption of PEX.

II. The restrictions and conditions imposed on the use of PEX in the July 10, 2008 Post-Hearing Modifications to Text of Proposed Building Standards are a commendable attempt to address the potential health, safety and performance impacts identified in the DEIR. Unfortunately, they fall well-short of what is required under CEQA and what is necessary to ensure protection of installers, consumers, homeowners and building occupants.

The PEX mitigation measures proposed in the July 10, 2008 Post-Hearing Modifications to Text of Proposed Building Standards are almost identical to the measures proposed by the May 2008 PEX DEIR. Accordingly, the analysis and critique of these measures in our June 23, 2008 Coalition Comments remain valid and include the following:

1. California standards must be amended to require certification for all chemicals for which NSF has standards that may leach from PEX, not just MTBE, TBA and Proposition 65 chemicals.
2. California drinking water standards must also be amended to address the DEIR's identification of potentially significant leaching of chemicals that are not currently regulated by California drinking water standards, such as Bisphenol A and ETBE.
3. The requirement to certify that PEX pipe meets California Proposition 65 standards must be clarified to provide Proposition 65 safe harbor levels for three Proposition 65 chemicals, butyl benzyl phthalate, toluene diamine and carbon black.
4. As long as a specific testing protocol is required, any accredited third party certifying listing agency should be qualified to certify that PEX meets California standards, not just NSF.
5. In a water service area that has detectable levels of MTBE or TBA in the drinking water, the measures should be amended to require that all contractors must install PEX specially-certified to have no detectable levels of MTBE or TBA unless they first provide evidence to the authority having jurisdiction that the building's water supply has no detectable levels of MTBE or TBA.
6. The requirement to either protect PEX installed in soil with a sleeve or obtain a clean Phase I Environmental Site Assessment to reduce the risk of permeation impacts to a level of insignificance should be revised to prohibit any installation of PEX below slab or between the water meter and the building structure. A 1991 study found that soil contamination occurred mainly after pipe installation, suggesting that soil analysis prior to pipe installation would not significantly decrease the number of permeation incidents.
7. The requirement that PEX tubing installed in continuously recirculating hot water systems shall meet the requirements of NSF P171 CL-R where chlorinated water is supplied to the system is grossly inadequate to address the potential failure impacts identified in the DEIR and in the administrative record. Moreover, this requirement does not address the DEIR's allowance of ASTM Standard F2023 in non-recirculating hot water systems, only ensuring an adjusted lifetime protection from chlorinated water of 25 years, when other PEX chlorine-resistance standards are available that ensure an adjusted lifetime protection from chlorinated water of 40 years.
8. The proposed restrictions also fail to address:
    - Failure to evaluate reports of widespread failures;
    - Failure to evaluate risk of illness due to more biomass than found in copper or CPVC;
    - Failure to evaluate adequately the impacts of solid waste disposal; and
    - Failure to evaluate the risk of toxic smoke in building fires.

RESPONSE: The comment is directed towards issues evaluated and analyzed in the EIR. The FEIR has adequately addressed these concerns expressed by the commenter. Please see the EIR for responses. The proposed regulations are reliant upon the EIR, which addressed all potential impacts on the environment that may be caused by the statewide adoption of PEX.

III. The Plastic Pipe and Fittings Association ("PPFA") June 23, 3008 objections to the imposition of conditions on the approval of PEX lack foundation, misrepresent the evidence in the record and misrepresent the Project setting.

A. PPFA attempts to downplay the impacts from potential pipe failure. Moreover, the PPFA letter misrepresents both the evidence in the record and the Project setting.

- PPFA first argues that mitigation of the potential PEX impacts identified in the PEX DEIR is not required because "...use of PEX will result in lesser potential public health and environmental impacts – even without mitigation – than the most widely used pipe material allowed under the

existing regulations, copper." It incorrectly assumes that identifying the impacts of copper obviate the need to evaluate and mitigate the performance, health and safety impacts associated with PEX. CEQA requires the identification of all project impacts, even if the project as a whole is environmentally preferable to the no-project alternative. Potential copper impacts are not even relevant in the consideration of alternatives since approval of PEX would not provide any alternative to copper that isn't already provided by CPVC or other approved pipe materials.

- PPFA next incorrectly claims that there is no evidence that PEX tested to the current national consensus standards will fail "prematurely", when there is evidence of widespread failures in Washington and other states of PEX tested and certified to national consensus standards. PPFA also argues that PEX installed in recirculating systems should not be required to meet NSF P171-CL-R for chlorine resistance, because recirculating systems are not widespread in California, ignoring the issue of those that are installed. PPFA also incorrectly claims that the Commission may not require compliance with P171-CL-R because it is not a national consensus standard, though there is no requirement that national specifications, published standards and model codes adopted by the Commission be consensus standards.
- PPFA also claims that premature failure of PEX pipe is not a significant impact because "it is not reasonable to assume that mold of any kind, let alone toxic mold, would form and persist undetected, subjecting anyone to a 'significant health risk.'" However, homeowners have, in fact, suffered from mold problems as a result of PEX and PEX fitting failures, and this claim assumes, without foundation, that all PEX failures would be immediately noticeable and immediately repaired. Second, this claim's relying upon mitigation of PEX failures after they happen supports a finding that this is a potentially significant impact, which the Commission has the authority to mitigate to prevent such failures before they occur. Third, this comment overlooks the impact of water and structural damage caused by PEX failures on the physical environment, which may be regarded as significant effect under CEQA even where toxic black mold does not occur.
- PPFA also makes the unsubstantiated claims that the Project would reduce the potential for mold growth because chloramine use is increasing; that the use of chloramines appears to be less aggressive to PEX than copper; that chloramines are known to adversely affect copper pipe; and that there is already substantial evidence of copper pipe failures. First, there is no evidence that chloramines are less aggressive to PEX, which is directly attacked by chloramines, than to copper, which may be corroded if chloramination is not properly optimized. Second, the PPFA Comments ignore the current Project setting which allows the use of not just copper pipe but also CPVC pipe, about which it makes no claims of greater risk than PEX for toxic mold growth or failure due to exposure to chloramines. Third, even if copper pipe may fail in corrosive water and soil conditions, this does not relieve the lead agency of its duty to mitigate potential impacts related to PEX pipe.

B. NSF toxicity standards are appropriately evaluated by reference to California drinking water standards.

1. PPFA argues that the DEIR improperly relies on California Maximum Contaminant Levels ("MCLs") as a threshold of significance to evaluate leaching impacts, because they are drinking water standards designed to guard against adverse health effects due to long term exposure. However, for MTBE, NSF Short Term Exposure Standards and long term exposure standards are all the same: 100 ppb, 10 times the California MCL for MTBE. Meeting NSF 61 short term and long term standards without mitigation, the proposed building standards would thus approve PEX formulations that could leach MTBE up to 100 ppb for the lifetime of the product.

   PPFA also inaccurately claims that the test results provided by NSF and contained in Appendix F of the DEIR demonstrate that MTBE and TBA levels released from PEX decline relatively rapidly to below regulatory levels. These test results, however, are of limited evidentiary value. First, even short term exposures to MTBE above California MCLs pose a public health risk because MTBE is a genotoxic carcinogen. Second, the NSF test results for less than 20 samples do not provide data for all 271 PEX products that would be approved by this proposed regulatory action. Third, the NSF test results are incomplete, preliminary and rely on a regression model that NSF admits "may not be the most suitable model to extrapolate" even the Day 90 level, much less to estimate leaching rates of up to two years later. This regulatory action approves not just the 271 types of PEX that currently exist on the market meeting certain standards, but also any new types of PEX that may enter the market in the future. Accordingly, additional mitigation is required to ensure that both current and future forms of PEX that would be approved under this regulatory action will meet California standards for MTBE.

2. Short term leaching from PEX must be disclosed and evaluated by the Lead Agency in order to protect construction workers, who are often the first persons to consume water from newly installed pipe. Moreover, because construction workers move from one job site to the next, they will be repeatedly exposed to higher levels of MTBE leaching.

3. *In Re Groundwater Cases* is not applicable nor is its underlying analysis contrary to the DEIR's application of California drinking water standards. PPFA claims that the Court of Appeal case *In Re Groundwater Cases* prohibits the application of California Drinking Water MCL or Action Level standards as a threshold of significance in an EIR. The case, however, is not applicable to the Commission's current proceedings, because the Commission is not seeking to impose liability on PEX manufacturers pursuant to PUC and DPH regulations as the court held. However, in the case's underlying analysis, the Court's statement that MCLs and Action Levels are intended to protect against the possible health risk of prolonged exposure to contaminants rather than acute, or short term, exposure is generally correct, supporting the decision of the lead agency to use California MCL levels as the threshold of significance for leaching impacts.

4. PPFA's suggestion to rely on privately set NSF 61 standards for TBA over standards set by the responsible state regulatory agencies would result in an unconstitutional delegation of authority. Not only are NSF standards less protective than California's, the Legislature has expressly entrusted DPH with the jurisdiction over the setting of MCLs, Action Levels and other technical drinking water standards. Relying on privately set NSF 61 standards instead of standards set by the DPH would result in an unconstitutional delegation of regulatory authority to a private entity. Deficiencies in NSF standards demonstrated by the Coalition include:

1. NSF allowable levels of contamination are higher than those determined by California agencies to protect human health.
2. NSF testing and certification process is confidential.
3. NSF is a private entity and not accountable to the public.
4. NSF is funded almost entirely by manufacturers whose products are listed and tested by NSF.
5. NSF contaminant standards are based on those manufacturers' studies.
6. Industrial participants have an economic stake in the results of NSF testing and certification processes.

C. PPFA's opposition to the requirement to meet California taste and odor standards lacks foundation or relevance. Although water purveyors may deliver water that exceeds taste and odor standards but meets MCL health standards, such taste and odor impacts are still significant under CEQA and must be mitigated, if feasible mitigation measures are available.

D. PPFA's opposition to the mitigation for cumulative leaching impacts in buildings with MTBE or TBA contaminated water lack substance, because it claims that most California water sources are below applicable drinking water standards. However, the proposed mitigation for cumulative impacts is narrowly tailored to only apply to water sources that do have detectable MTBE contamination.

E. PPFA's objection to permeation mitigation measures lacks relevance, claiming that mitigation for existing projects is not required. However, CEQA applies to new discretionary approvals, not to existing regulations.

RESPONSE: The comment is directed towards issues evaluated and analyzed in the EIR. The FEIR has adequately addressed these concerns expressed by the commenter. Please see the EIR for responses. The proposed regulations are reliant upon the EIR, which addressed all potential impacts on the environment that may be caused by the statewide adoption of PEX.
While DSA recognizes the comments responding to comment by PPFA, these comments are not relevant to the proposed regulations or process.

IV. The PEX amendment notice is procedurally defective because it fails to include the agencies' justification under the nine-point criteria of Section 18930. Section 18929.1's requirement to provide the public written notice of the "justification" for the proposed building standards clearly refers to justification under the nine-point criteria of Section 18930.

- First, Section 18930's requirement that building standards be justified under the nine-point criteria is the only "justification" provided for in the California Building Standards Law.
- Second, Section 18929.1 requires the procedures for public review to meet the intent of Section 18930, thus underscoring that this section must be consulted when justifying proposed standards to the public.
- The PEX Adoption Notice, however, fails to provide to the public written notice of HCD's, CBSC's, OSHPD's or DSA's justification for the proposed standards under the nine-point criteria analysis.

- The failure to include the nine-point criteria justification in the PEX Adoption Notice effectively precludes the public from critically analyzing the agencies' justification for their proposed building standards.
- The Initial Statement of Reasons contained in the PEX Adoption Notice is limited to the bare elements required under Government Code section 11346.2 and fails to include its justification in terms of the Section 18930 criteria, violating the notice requirements of Section 18929.1.
- The 2007 notice for the proposed PEX amendments must be revised and re-circulated with a copy of the nine-point analysis of HCD, CBSC, OSHPD and DSA in order to correct this error.

RESPONSE: The comments are not directed toward specific proposed language but rather directed toward the process. The commenter's suggestion that Health and Safety Code (HSC) Section 18929.1 requires the notice to justification under the nine-point criteria is an interpretation that is not consistent with CBSC's regulations.
HSC Section 18929.1 directs CBSC to develop regulations setting forth the procedures for an annual code adoption cycle. The section listed five items that must be included in the regulatory process. One of these items is the justification for the proposed changes. CBSC's regulations adopted pursuant to this section became effective on March 12, 1994.
Article 1-9, Section 1-900 (g) defines "justification" as follows:

> *(g) "Justification" means an initial statement of reasons and the information needed to complete a notice of proposed action, including a determination as to the effect of the code change on housing costs.*

As stated in the regulations justification, for purposes identified in HSC Section 18929.1, is the ISOR and not justification to the nine-point criteria as purported by the commenter. As the commenter notes, HSC Section 18930 requires each agency to provide an analysis that is satisfactory to CBSC that justifies the approval to the nine-point criteria. This nine-point criteria analysis is provided separately from the ISOR. Additionally, this is the process that all previous code change proposals have followed.
The ISOR that provides the rationale for the proposed changes to the CPC is specific to its reliance on the EIR for approval and meets the requirements of the Administrative Procedure Act and Building Standards regulations.
During the code adoption cycle, the Code Advisory Committees review all code proposed changes to the nine-point criteria. In addition, the nine-point analysis has been developed by the proposing and adopting agencies and will be available to the CBSC at the action meeting for the Commissioners to review and approve to their satisfaction.

V. The proposed statewide approval of PEX without first finalizing a legally adequate EIR fails to meet at least two of the nine-point criteria.

A. Approval of PEX without first preparing an adequate EIR would not be in the public interest, being in violation of the law. Further, the statewide approval of PEX would also be contrary to the public interest due to the numerous significant environmental and public health and safety impacts associated with these products, even with the newly proposed restrictions and requirements.
B. Statewide approval of PEX without first preparing a legally adequate and technically complete EIR would be unreasonable, arbitrary and unfair. Allowing the statewide approval of PEX based upon the inadequate analysis contained in the PEX DEIR is a clear violation of CEQA not justifiable under the nine-point criteria. Furthermore, the proposed statewide approval of PEX is unfair and unreasonable due to the substantial evidence of potential significant impacts associated with this approval.

RESPONSE: As the lead agency in the preparation of the EIR, CBSC has been working with consultants and the responsible agencies to adequately address all environmental concerns related to the statewide adoption of PEX. CBSC is aware that the FEIR must be adopted and certified prior to the adoption and approval of the proposed regulatory changes relating to PEX.

VI. Conclusion

The comments, expert reports, studies and other evidence submitted herein to the Commission demonstrate that the statewide approval of PEX and PEX fittings may result in numerous significant impacts on public health and the environment, even with the recently proposed revisions.

The evidence submitted further demonstrates that the PEX DEIR fails to adequately evaluate and mitigate these impacts. As a result, the proposed approval of PEX would be contrary to the public interest.

The Commission must also correct the procedural errors of the PEX Amendment Notice to meet the notice and justification requirements of the APA and of Health and Safety Code sections 18929.1 and 18930.

The State Pipe Trades Council respectfully requests that the Commission require full compliance with CEQA, including the completion of a legally adequate EIR, prior to adopting the proposed amendments approving PEX. Until a legally adequate EIR is completed and feasible, meaningful mitigation is imposed, the PEX amendments proposed by HCD, CBSC, OSHPD and DSA must be disapproved or, in the alternative, held for further study.

> **RESPONSE:** All of the items expressed in the conclusion were addressed in the response to the commenter above.

2.4 COMMENTER: Stan Smith, Business Manager, ***Sprinkler Fitters and Apprentices, Local No. 483***

I am writing on behalf of Sprinkler Fitters and Apprentices, U.A. Local 483 to oppose the proposed approval of PEX potable water piping (Plumbing Code Section 604.1 and Table 6-4) on the grounds that the proposed amendments fail to sufficiently mitigate the risk of PEX failure, fire safety and other impacts. The proposed modifications to Plumbing Code Section 604.1 and Table 6-4 would allow the use of PEX to supply potable water to fire protection systems, such as those installed by our members.

The California Building Standards Commission's May 2008 PEX Draft Environmental Impact Report (Draft EIR) confirmed a number of longstanding concerns regarding susceptibility of PEX to premature failure. We are also aware of reports of widespread failures of PEX and PEX-Al-PEX, which can create a liability risk to installers. While the current proposed mitigation measures begin to address some of these issues, further mitigation is necessary before this product is ready for statewide approval.

We believe that the proposed amendments fail to ensure an adequate lifetime for PEX pipe. The amendments allow compliance with ASTM 2023 for chlorine resistance, which provides for an adjusted lifetime of only 25 years compared to NSF P171 CL-1 and NSF P171 CL-Rs' 40-year certification.

We support requiring PEX to demonstrate at least a 40 year adjusted lifetime after exposure to a maximum-allowed number of days of sunlight. Moreover, some method must be devised to provide installers an accurate method of determining how long PEX pipe has been exposed to sunlight.

The PEX Draft EIR finds that many firestop materials are incompatible with PEX and may lead to premature pipe rupture. Instead of addressing the risk of incompatible firestop materials in the California Plumbing Code, the PEX Draft EIR suggests that it is sufficient to rely upon warnings contained in PEX installation guides. Not all PEX installation guides, however, warn against this incompatibility. Accordingly, this issue must be addressed in the state code.

Finally, the PEX Draft EIR, upon which the proposed amendments are based, did not address fire safety concerns regarding toxic smoke from burning plastic PEX pipes. Electrical fires that start within building walls may release toxic smoke from smoldering PEX piping even before occupants are aware there is a fire. This potential hazard should be meaningfully evaluated before PEX is approved in the state code.

> **RESPONSE:** DSA acknowledges the concerns expressed by the commenter, however, the comment is directed towards environmental issues evaluated and analyzed in the EIR. The FEIR has adequately addressed these concerns expressed by the commenter. Interested parties may review the EIR for responses to these concerns. The proposed regulations are reliant upon the EIR, which addressed all potential impacts on the environment that may be caused by the statewide adoption of PEX.

2.5 COMMENTER: Jay Burnett, ***Delta Faucet Company***

Please know that we agree and are in fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

Furthermore, we believe that PEX tubing should be a clear option for use in any jurisdiction in California. Testing shows PEX tubing has excellent durability equal or better than all other commonly available residential potable water piping solutions.[1] Finally, in areas with poor water quality across the country and the world, PEX has proven to be the best solution to resist corrosion.[2]

[1] 30 years of Pressure Testing PE-Xa Pipes, Dr. Hansjorg Nitz and Dr. Heinz Vogt.
[2] Plastic Pipe Institute, Residential Pex Water Supply Plumbing Systems

RESPONSE: DSA acknowledges the comment, noting that it supports the proposed regulations.

2.6 COMMENTER: Marushkah Kurtz on behalf of ***CALPAC Sheet Metal***

We are a residential sheet metal contractor serving Orange County, LA and Inland Empire since 1994.

We agree and fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

We believe that PEX should be a clear option for use in any jurisdiction in California.

RESPONSE: DSA acknowledges the comment, noting that it supports the proposed regulations.

2.7 COMMENTER: Mike Taylor on behalf of ***RCR Plumbing and Mechanical***

We are a plumbing contractor that has been in business for thirty one years with currently approximately six hundred employees located throughout the State of California.

We agree and fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

We believe that PEX should be a clear option for use in any jurisdiction in California.

RESPONSE: DSA acknowledges the comment, noting that it supports the proposed regulations.

2.8 COMMENTER: Victor Franco on behalf of ***Sheehan Construction, Inc.***

We are a large residential framing contractor. Over the last ten years, we have built thousands of homes in the San Francisco Bay Area region, employing as many as 900 people.

We agree and fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

We believe that PEX should be a clear option for use in any jurisdiction in California.

RESPONSE: DSA acknowledges the comment, noting that it supports the proposed regulations.

2.9 COMMENTER: Timothy Taylor, ***Taylor Trim and Supply*** and ***Taylor Diversified***

Taylor Trim and Supply, Inc. was established in 1990. We are a finish Carpentry Subcontractor that provides labor and materials to builders and developers of tract homes. At times, our company has had upwards of 160 employees.

Taylor Diversified was established in 2003. We are a window and patio door distributor providing labor and materials for builders and developers of tract homes. At times, our company has had upwards of 90 employees. We serve most of southern California.

We agree and fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

We believe that PEX should be a clear option for use in any jurisdiction in California.

RESPONSE: DSA acknowledges the comment, noting that it supports the proposed regulations.

2.10 COMMENTER: Bruce Wick on behalf of ***California Professional Association of Specialty Contractors (CALPASC)***

CALPASC (California Professional Association of Specialty Contractors) is a not-for profit trade association of Trade Contractors and Suppliers in California. We have 500 member companies, representing approximately 75,000 employees.

We agree and fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

We believe that PEX should be a clear option for use in any jurisdiction in California.

RESPONSE: DSA acknowledges the comment, noting that it supports the proposed regulations.

2.11 COMMENTER: Wayne Taylor on behalf of ***Golden West Plumbing, Inc.***

Our company has been in business for 32 years. We employ an average of 100 people, annually. Our field of work is New Residential plumbing in the Orange, Los Angeles, Riverside and San Bernardino counties. We install plumbing systems in approximately 1,000 new homes every year.

We agree and fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

We believe that PEX should be a clear option for use in any jurisdiction in California.

RESPONSE: DSA acknowledges the comment, noting that it supports the proposed regulations.

2.12 COMMENTER: David Keefe on behalf of ***Trilogy Plumbing, Inc.***

Trilogy Plumbing, Inc. has been in business for over six years. We employ approximately 120 employees in Sacramento and Anaheim, California.

We agree and fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

We believe that PEX should be a clear option for use in any jurisdiction in California.

RESPONSE: DSA acknowledges the comment, noting that it supports the proposed regulations.

2.13 COMMENTER: Steven R. Hartshorn on behalf of ***Orange Pacific Plumbing, Inc.***

We are a residential plumbing subcontractor in southern California and are in our 26th year. We have employed as many as 80 Californians at various times in our history.

We agree and fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

We believe that PEX should be a clear option for use in any jurisdiction in California.

RESPONSE: DSA acknowledges the comment, noting that it supports the proposed regulations.

2.14 COMMENTER: Gregory R. Colgate on behalf of ***New Era Tile and Stone***

New Era Tile & Stone, Inc. is a ceramic tile and stone contracting company operating in Southern California. My personal experience in this business spans nearly 30 years, and on average we employ approximately 50 workers.

We agree and fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

We believe that PEX should be a clear option for use in any jurisdiction in California.

RESPONSE: DSA acknowledges the comments, noting that they support the proposed regulations.

2.15 COMMENTERS: Richard Hallinan on behalf of ***Executive Plumbing, Heating & Air***, Rich Ahrens on behalf of "***Sierra West Construction Inc.***, Tom Calhoun on behalf of ***Calhoun Construction, Inc.***, Thomas R. Steele on behalf of ***Hardwood Creations***

We agree and fully support the proposed modifications regarding PEX tubing, as issued on July 10, 2008. This includes the modifications issued for all agencies listed:

Building Standards Commission (BSC)
Division of the State Architect- Structural Safety (DSA-SS)
Office of Statewide Health Planning and Development (OSHPD)
Housing and community Development (HCD)

We believe that PEX should be a clear option for use in any jurisdiction in California.

RESPONSE: DSA acknowledges the comments, noting that they support the proposed regulations.

2.16 COMMENTER: Richard A. Stubendorff, Chief Building Official, ***City of Santa Cruz***

I have allowed the use of PEX in my jurisdiction as an alternative material for at least the last 10 years without any significant problems in installation and virtually no failures.

The product has been used successfully worldwide for many years including the United States and Canada.

The ease of installation has proven to be a significant cost savings in the construction of buildings especially in homes.

The longevity of PEX compared to copper or galvanized iron pipe is significantly better. We are seeing failures in copper in as little as five years due to pinhole erosions depending on the pH and makeup of the water chemical analysis. This problem is not evident in the use of PEX. Also the smooth interior of the PEX tubing has a very low tendency to scale and smaller tubing sizes can accomplish the same task in providing sufficient pressure and volume than the larger copper or GIP sizes.

The safety of PEX leaching has improved with new formulations in recent years. The requirement of the Commission of marking the tubing as suitable for potable water and human consumption by NSF is a reasonable step as should required on all types of piping. I am more concerned about the leaching of copper from acidic water especially after standing for long periods not to mention that older systems still have lead in the solders.

I would recommend that the Commission proceed to formally include PEX as a suitable material for potable and non-potable water installations.

RESPONSE: DSA acknowledges the comment, noting that it supports the proposed regulations.

2.17 COMMENTER: Sommach Simmons & Dunn, A Professional Corporation, Attorneys at Law, representing the ***Plastic Pipe and Fittings Association***

On behalf of the Plastic Pipe and Fittings Association (PPFA), this office submits the following comments on the recent proposed amendments to the Express Terms for Proposed Building Standards of the California Building Standards Commission (CBSC) related to PEX tubing, dated July 11, 2008. The amendments were proposed to address mitigation measures identified in the draft CEQA document regarding the use of PEX.

I. Proposed Amendment to Chapter 6, Walter Supply & Distribution, Table 6-4, Footnote 3

The proposed addition of footnote 3 to Table 6-4 is apparently based on the Draft EIR's mitigation measure requiring compliance with NSF P171-CL-R. In PPFA's comments on the Draft EIR, we explained why that mitigation measure was not needed to avoid environmental impacts, and we raised concern about adopting as a regulatory requirement a non-consensus based test protocol like P171-CL-R. ASTM recently has approved adding a Continuous Recirculation Requirement to ASTM F876 so that PEX tubing may be tested and listed for 100% hot water recirculation at 140 degrees Fahrenheit. Now approved, this change to ASTM F876 will be officially published within a few months, at which time all listings to the NSF P171 protocol will be converted to the ASTM F876 listing, currently required in the plumbing code for PEX used in potable water applications and to be extended to recirculation systems. Therefore, it is not necessary to have a separate code requirement for this application.

RESPONSE: Based on the comments and the information within the EIR, the proposed changes relating to the test standards have been changed to include ASTM F876.

II. Proposed Amendments to Section 604.1

When the Draft EIR was released, the State lacked complete data to resolve questions in the draft regarding whether PEX released certain drinking water constituents above California regulatory levels. NSF provided data and information to the state after publication of the Draft EIR which resolve those questions and demonstrate that PEX will not release chemicals, including Proposition 65 listed chemicals, at levels that

violate drinking water standards. The recent NSF analysis indicates that after just two months, the levels for samples of MTBE and t-butanol are far below peer-reviewed levels determined by NSF to be protective of human health. The data suggests that these levels will continue to decline, further obviating any reason for concern.

PPFA and NSF have also commented that it is not necessary or appropriate (in order to protect human health) to meet the State's notification level, which is below the NSF detection limit and was not based on appropriate science. Compliance with the peer-reviewed NSF levels should be the criterion for assessing potential impacts.

The EIR process demonstrated that there is no potential for PEX to release Proposition 65 constituents above adopted Public Health Goals (PHGs) or Maximum Contaminant Levels (MCLs), and those for which no PHGs or MCLs have been adopted. Thus the mitigation measures identified in Draft EIR and the revisions to section 604.1 are not needed or appropriate.

Not only is product-specific regulation unnecessary, it is fundamentally unfair and misleading to require that only one product demonstrate compliance with broad-based regulations like drinking water standards and Proposition 65 when regulated chemicals could be present in *any* code authorized piping material.

The EIR process has proved that heightened regulation for PEX is not necessary and PPFA respectfully requests that the CBSC reject the most recent amendments to section 604.1 and footnote 3 to Table 6-4. Full approval of PEX without unneeded, product-specific regulation will provide an environmentally beneficial and cost-effective choice for California Consumers.

> **RESPONSE:** Based on the comments and the information within the EIR, the relevant part of the proposed changes relating to the testing, certification, and marking of PEX have been withdrawn.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).

Public Comments Received on Table 4-1 Proposals during 45 Day Comment period October 6, 2008 – November 19, 2008 (third 45 Day Comment Period):

DSA received no comments during this period.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).

Public Comments Received on CBSC PEX Piping Proposals during 15 Day Comment period November 5, 2008 – December 9, 2008 (second 15 Day Comment Period):

DSA received no comments during this period.

DETERMINATION OF ALTERNATIVES CONSIDERED AND EFFECT ON PRIVATE PERSONS

DSA has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective as and less burdensome to affected private persons than the adopted regulation

REJECTED PROPOSED ALTERNATIVE THAT WOULD LESSEN THE ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES:

There were no proposed alternatives. DSA has determined that the proposed regulations will have no adverse impact on small businesses.