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NEW JERSEY REGISTER

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VOLUME 42, ISSUE 17

ISSUE DATE: SEPTEMBER 7, 2010

**RULE ADOPTIONS**

**COMMUNITY AFFAIRS  
DIVISION OF CODES AND STANDARDS**

*42 N.J.R. 2043(a)*

**Adopted Amendments: N.J.A.C. 5:23-2.20, 3.6, 3.14, 3.15, 3.17, 3.18, 3.20, 3.21, 3.22, 12.2 and 12.12**

**Uniform Construction Code**

**Building, Plumbing, Fire Protection, Energy, Mechanical, One- and Two-Family, Fuel Gas and Elevator Safety Subcodes**

Proposed: September 8, 2009 at 41 N.J.R. 3140(a).

Adopted: August 12, 2010 by Lori Grifa, Commissioner, Department of Community Affairs.

Filed: August 12, 2010 as R.2010 d.195, **with substantive and technical changes** not requiring additional public notice or comment (see N.J.A.C. 1:30-6.3).

Authority: N.J.S.A. 52:27D-124.

Effective Date: September 7, 2010.

Expiration Date: June 13, 2013.

**Summary of Public Comments and Agency Responses:**

Comments were received from the following individuals and organizations:

The following representatives of municipalities, agencies, and organizations commented on the proposal: Abballe, Piero, Construction Official, Old Tappan; Addezio, Stephen, Director of Public Safety, Township of Medford; Alessi, Donna, Planning Administrator, Bridgewater Township; Allen, Kevin, Fire Chief, Montclair; Allman, Gary, Electrical Subcode Official, Rockaway Township; Alston, Robert, Firefighter, Toms River; Alverson, Scott, Firefighter, Delran Township; Amador, Federico, Fire and Police, City of Trenton; Anderson, Mal, Delran Fire Department; Anderson, Mal, Retired Chief and Fire Commissioner, Delran Fire Department; Anderson, Steve, Firefighter, Jackson Township; Andreychak, John, Fire Marshal, Hillsborough; Andrinopoulos, Chris, Firefighter, Lyndhurst; Androvett, Theresa, Firefighter, Beachwood; Antozzeski, Mark, Fire Chief, Hamilton Township, Fire District #9, Hamilton; Armm, Edward, SFPE, Lake Hopatcong; Aroneo, Louis, Fire Marshal, Long Hill; Atkinson, James, Lieutenant, Riverside; Atrod, Don-

ald, Jr., Firefighter, City of Trenton; Autenrieth, Mark, Fire Commissioner and Ex-Chief, Toms River; Autowicetti, Michael, Firefighter, Lyndhurst; Badger, Cindy, Fire Fighter, Egg Harbor Township; Baiada, Brian, Firefighter/EMT, Delran; Balis, Board of Fire Commissioners, District 3, Jackson Township; Baranz, Harry, Fire Inspector, Pequannock; Barbalacci, Robert, Captain-Fire/Police, Hamilton Township; Barrios, Bruce, Fire Inspector/Firefighter, Madison; Batzel, Kevin, Bureau Chief/Fire Marshal, Bureau of Fire Safety, Brick Township; Bauer, James, Commissioner, Delran; Bauer, Walter, Fire Official, Delran; Beck, Richard, Firefighter/Ex-Fire Chief, Island Heights; Beers, Albert, Chief, Fire Department, Wildwood Crest; Beliveau, Joseph, Fire Official, Spring Lake Heights; Bellamy, Craig, Fire Official; Belmont, Charles, Fire Department and Fire Subcode Official, Hamilton Township, Mercer County; Beslanovitz, John, Bureau of Fire Prevention, Fire Official, Hazlet; Betz, Jeffrey, 1st Vice President, NJ State Fire Chief's Association, Brookside; Bilger, Jeffrey, Chief, Verga Fire Company, West Deptford; Bleeker, Sally, Municipal Clerk, Franklin Lakes Bocchino, Mark, Plumbing Subcode Official, Norwood; Bodine, Paul, Apprentice, Barnegat; Boehning, David, Deputy Coordinator, Borough of Tinton Falls; Bolduc, Alfred, Chief, Fire Department, Demarest; Bonetti, Clark, Owner, Swim-Mor Pools and Spas, Mt. Ephraim; Bonforte, Stephen, Journeyman, Long Branch; Boyle, James, Fire Captain/Training, Summit; Brady, Robert, Firefighter, Bound Brook; Bramalmain, Ralph, West Trenton; Volunteer Fire Co. 1, Chief, Ewing Township; Brarcallo, Bryan, Firefighter, Budd Lake; Braszczewski, Barbara, Firefighter, Lyndhurst; Brenner, Adam, Firefighter, Short Hills; Bresett, Gail, Kinnelon Volunteer Fire Department, Chief, Kinnelon; Brezer, Michael, Firefighter, Blackwood; Brigham, Robert, Contractor, Fire Department, Upper Saddle River; Brothers, Michael, Fire Official, Rahway; Brothers, Christopher, Lieutenant, Fire Department, Teaneck; Brown, Bonnie, Fire District No. 3, Jackson Township; Brynes, Robert, Fire Official, Bergenfield; Budenas, Jim, Firefighter, Toms River; Buono, Philip, Firefighter, South Bound Brook; Burger, Daniel, Sprinkler Fitter, Howell; Burleigh, Jim, Fire Chief, Bellmawr; Burns, Timothy, Firefighter, Lyndhurst; Buscaglia, Robert, Ex-Fire Chief, Freehold; Busch, Ernest, Camden County Fire Prevention Association, Blackwood; Byrnes, Jacqueline, Attorney, Toms River; Byrnes, William, Firefighter, Toms River; Byrnes, Kenneth, District Chief, Board of Fire Commissioners, Jackson; C., Tim, Wanamasse Fire Co., Chief, Ocean; Cairvno, Samuel, Firefighter, Millburn; Candura, Lewis, Commissioner, New Jersey Fire Safety Commission, Budd Lake; Carlson, Timothy, Assistant Chief, Fire Department, Jackson; Carmelli, Margaret, Tyler and Carmelli, PC, Attorneys at Law, on behalf of New Jersey Manufactured Housing; Carney, Thomas, Fire Chief, Fair Lawn; Carroll, Gary, President, Aqualand Pools and Spas, Manasquan; Carroll, Richard, Assistant Chief, Chatham; Carroll, Neal, Secretary, Fire Chiefs, River Edge; Carter, Gina, Firefighter, Somerset; Carter, Harry, President, New Jersey Association of Fire Districts, Trenton; Caruso, Salvatore, Firefighter, Toms River; Caruso, Zachary, Firefighter, Freehold; Cenerino, Gene, Firefighter/Fire and Police, City of Trenton; Cerrano, Joe, Former Mayor, Demarest; Chai, Mark, Fire Official, Elizabeth; Chik, Mike Denit, Fire Official, Jackson; Chrysanthou, Russ, President, Pool-Town, Inc., Howell; Ciarlariello, P.J., Fire Official, North Plainfield; Cirelli, Alfred, Firefighter, Hackensack; Clayton, Levon, Fire Chief/Fire Prevention Official, Volunteer Fire Department, Longport; Clesmere, Howard, Firefighter, Freehold; Cole, Jere, New Jersey State Fire Chief's Association, West Caldwell; Colonsbergan, Richard, Captain, Bound Brook; Concato, Robert, Board of Fire Commissioner, District 3, Jackson; Connaughton, Thomas, Director-Life Safety and Security, Somerset; Cortright, Joseph, Township of Hanover, Fire District, Whippany; Costa, Cary, Fire Marshal, Borough of Tinton Falls; Craddock, Charles, Jr., Captain, Hamilton Township; Curry, Bryant, Fire Subcode Official, Beachwood; Cutts, Lorie, Administrative Assistant, Township of Medford; D'Amure, Frank, Fire Official, Milford; Daniels, John, Fire Official/Firefighter, Hampton; Danza, Peter, Captain/Inspector, Bayville; D'Artagnge, Wayne, Deputy Chief, Hamilton Township; Davis, Tiffany, Service Specialist, Bricktown; DeGesero, Eric, Executive Vice President, Fuel Merchants Association of New Jersey, Springfield; DeLaurentis, John, Jr., Lieutenant, United States Air Force, North Dakota; DeLeon, Godfrey, Elevator Inspector, Passaic; DeLosch, Derrick, Firefighter, Bound Brook; DeNicola, Maura, Mayor, Franklin Lakes; Deptuch, Walter, Firefighter, Norwood; Devlin, Kevin, Chief, Delran; Di Costanzo, Peter, Fire Inspector, Nutley; DiGenni, Michael, Firefighter, Voorhees; Dillon, Michael, Secretary-Fire Department, New Milford; Dolan, Leonard, Chief, Fire Department, Cranford; Donnerstag, Billy, Fire Prevention Subcode Official, Long Valley; Douglas, Robert, Firefighter, Freehold; Dovi, Robert, Jr., Lieutenant, Township of Medford; Drucker, John, Fire Subcode Official, Borough of Red Bank; Dunsto, Richard, Firefighter, Sicklerville; Durante, Chris, Fire Fighter, Blackwood; Durie, Keith, Fire Official, Hillsdale; Durkin, Brian, Firefighter, Toms River; Dye, Gary, Fire Chief, Toms River; Elnecave, Issac, Northeast Energy Efficiency Partnerships; Erickson, Keith, Journeyman, Beachwood; Fagan, Christopher, Firefighter, Jackson; Fania, James, Construction Official, Pittstown; Fatavic, Michael, Chief, Jackson; Figueroa, Maria, Regional Manager, National Fire Protection Association, Miami Lakes, Florida; Finley, Peter, President/NJ Career [page=2044] Fire Chiefs Association, Vineland; Flanagan, Michael, Firefighter, Lyndhurst; Flood, Michael, Volunteer Firefighter, Dumont; Fonzino, James, Fire Official, Florham Park; Foster, Renee, Lieutenant, Bound Brook; Freeman, Kenneth, Sr, Fire Captain, Hamilton Township, Fire District 7; Fretz, Frederick, Fire Official, Union; Fulmino, Christian, Assistant Chief, Volunteer Fire Company 3, Hillsborough; Furman, William, Chief, Fire Company

No. 1, Tinton Falls; G.J., Fire Department, Fire Official, Waldwick; Gabriel, Anthony, Firefighter/EMT, Totowa; Gadowski, Paul, Fire Department, Carteret; Gasiorowski, Peter, Chief of Administration, Monroe Township; Gazie, Robert, Firefighter, Freehold; Gerity, Thomas, Fire Marshal, Cliffwood Beach; Giberson, Garrett, Fire Inspector, Asbury Park; Gill, Gregory, Firefighter, Lyndhurst; Giordano, L., Chief, Fire Department, Kenilworth; Giorgione, Adriane, Firefighter/Paramedic, Toms River; Gloglutz, Peter, Chief, Fire Department, Chatham Borough; Gluck, Steven, Construction Official, Sussex; Goldenbaum, Dennis, Plumbing Inspector, Hamilton; Gonzalez, John, Captain, Toms River; Goodwin, James, Fire Protection, Operations Manager, Pleasantville; Gorlin, Steve, President, Gorlin Pools and Spas, Toms River; Gose, Mark, Captain, City of Wildwood; Grady, John, Fire Fighter, Blackwood; Grande, William, Volunteer Fire Company, District 2, East Brunswick; Graves, Steve, Sprinkler Fitter Local 669; Gray, Matthew, Fire Fighter, Gloucester Township; Gray, Louis, Sr., Firefighter, Blackwood; Greco, Peter, Firefighter, Hackensack; Gregor, Fran, Elizabeth Avenue Volunteer Fire Company, Somerset; Grippo, Stephen, Firefighter, Somerset; Grossman, Michael, Firefighter, Jackson; Gullia, Joseph, Deputy Chief, Bound Brook; Haas, Craig, Firefighter, Freehold; Hamilton, William, Assistant Chief, Nutley; Harhay, Christopher, Firefighter, Hamilton Township; Hayes, Kevin, Fire Official, Long Branch; Heimburg, Robert, Chief Engineer, New Milford; Heimburg, Keith, Engineer, Washington Township; Heimrich, Peter, Firefighter, Chatham; Henning, Bryan, Bergen County-Fire Marshal, Mahwah; Hennog, Bryan, Firefighter, Lyndhurst; Hofmann, Ryan, Deputy Fire Marshal, Township of Medford; Hogan, Richard, Construction Code Department, Township of Manalapan; Hoit, Harold, Journeyman, Carteret; Holcombe, Jon, Chief, District 2, Hamilton; Hong, David, Firefighter, Blackwood; Horner, Thomas, Bureau of Fire Prevention, Fire Inspector, Hazlet; Horner, David, Lieutenant, Delran; Houck, Joseph, Chief, Fire Department, Summit; Howles, James, Firefighter, Freehold; Hubbs, Jacqueline, Firefighter, Delran; Hughes, John, Firefighter, Wayne; Hullings, Corey, Captain, Delran; Huntley, Jeffrey, Firefighter, Beachwood; Hussey, John, Firefighter, Jackson; Jack, Larry, Past Chief, Delran; Janes, Tierra, Clerk Typist, Bergen County; Johnson, Randy, Fire Marshal, Hainesport; Jolicoanr, Paul, Firefighter, Freehold; Jordan, C., Board of Fire Commissioners, District 3, Jackson; Jordan, M., Board of Fire Commissioners, District 3, Jackson; Kammer, Edward, Former Fire Chief, Northvale; Kansky, Matthew, Fire Marshal, Vernon; Kardel, John, Fire Chief, Middletown; Karner, Edward, Ex-Fire Chief, Northvale; Kehoe, Greg, Firefighter, Delran; Kehoe, Lauren, Secretary, Delran; Kellay, John, Chief, Fire Department, Margate City; Keller, Rich, Firefighter, Toms River; Kelly, Noel, Carpenter, Secaucus; Kendall, Chris, EMT/Firefighter, Wayne; Kenney, James, Firefighter, Hamilton Township; Kerr, Charles, Chief Inspector/Fire Official, Kearny; Keuder, Charles, Sr., Commissioner, Delran; Khan, Aleisha, Executive Director, Building Codes Assistance Project (BCAP), Washington, DC; Kikis, Nicholas, Director of Regulatory Affairs, New Jersey Apartment Association (NJAA), Monroe Township; Kimmel, John, Deputy Chief, Hillside; Kirsch, Robert, Firefighter/Investigator, Bergenfield; Knight, James, Ex-Chief, Firefighter, Bound Brook; Knobb, Cynthia Maahs, Fire Official, Morristown; Korda, Daniel, Firefighter, Freehold; Krowl, Frederick, Building Subcode Official, Bellville; Kudrick, James, Firefighter, Toms River; Kulpan, David, Fire Inspector/Fire Subcode Official, Hillside; Kurilla, Robert, Fire Prevention Specialist, Brick; Kusant, Margaret, Registrar, Delaware Township; Lacey, Eric, Chairman, RECA, Washington DC; Lawson, Daniel, Firefighter/EMT, Somerset; Layout, Thomas, Construction Official, Easthampton; Lenhardt, George, Fire Commissioner, Hamilton Township; Lennon, Ralf, Firefighter, Wayne; Lepone, Nicole, Fire Chief, Northvale; Lewis, Doug, Manager, Audubon-Cesco Pools, Audubon; Lewis, John, Lieutenant, Fire Department, Passaic; Lewis, Gary, Construction Official, City of Summit; Liberatore, James, President, Burlington County Fire Chiefs Association; Liberti, Bruce, Contractor, Fort Lee; Lightbody, John, Chief, Toms River; Linz, Steven, Fire Official, Franklin Lakes; Lipman, Joel, Deputy Chief, Somerset; Lucas, Kent, 2nd Lieutenant, Firefighter, Freehold; Lugossy, Gilbert, Fire Department 3, Secretary of the Board, Hamilton Township; Lukac, Mark, Firefighter, Bound Brook; Lukac, James, Lieutenant, Middlesex; Lukas, Mark, Firefighter, Bound Brook; Lukenda, Lawrence, Fire Official, Township of Winfield; Luongo, Thomas, Assistant Chief, Fire Department, Freehold; Lutz, Jeffrey, Deputy Chief, Riverside; Maas, David, Firefighter and Fire Subcode Official, Township of Springfield; Mack, Christopher, President, New Jersey Burglar and Fire Alarm Association, Trenton; MacPherson, Gerald, President, Fire Company No. 1, Tinton Falls; Magazzu, Kenneth, L., President, K&M Pools, Old Bridge; Magistro, Vincent, Firefighter, Wayne; Maher, Timothy, Engineer, Wayne; Mahoney, Mike, Firefighter, Beachwood; Mallin, C., Chief, Fire Department, Livingston; Manning, Craig, Firefighter, Delran; Marino, Nick, Battalion Chief, Point Pleasant; Marios, Beau, Chief, Fire Department, Atlantic Highlands; Martin, Michael, Fire Marshal, Manchester; Martin, Matthew, Chief of Emergency Services/Fire Official, Hopewell Township, Fire District No. 1, Titusville; Martino, Captain John, Delran; Martino, Lieutenant Jason, Delanco; Mass, Raymond, Zoning Board Member, Red Bank; Matos, Jorge, Firefighter, Hamilton Township; Matthew, Martin, Fire Official, Hopewell; Matula, Paul, Fire Prevention Specialist, Bureau of Fire Safety, Brick Township; Matzer, John, Firefighter, Riverside; Mauro, Thomas, Firefighter, Toms River; McAleer, James, Fire Marshal, Franklin Township; McAleer, James R., Fire Marshal, Branchburg; McCann, James, Volunteer Fire Company No. 1, Chief, East Windsor; McCleery, Douglas, Vice President-Technical Services, MaGrann Associates, Moorestown; McCormick,

Scott, Fire Marshal, Bureau of Fire Prevention, Hamilton; McDaniel, Albert, Firefighter, Toms River; McElroy, Kevin, Firefighter, Mercerville; McGowan, Tim, Township of Warren; McLaughlin, Michael, Firefighter, Jackson; Meade, Leo, Jr., Firefighter, Williamstown; Mesisca, John, Bureau of Fire Safety, Boro of Fairview; Messuti, Hernan, President, INCA Pool Corporation, North Plainfield; Metzinger, Bryan, Firefighter, Lyndhurst; Mezaros, Kent, CEO, Manalapan; Mezaros, Beth, Financial Secretary, Manalapan; Miller, Bruce, 2nd Lieutenant, Beachwood; Miller, Clint, Chief, Fire Department, Montvale; Monaco, Kevin, Executive Director, New Jersey Subcontractors Association, Manasquan; Mondri, Roy, Fire Marshal, Somerset; Monesmith, Carl, Associated Fire Protection, Paterson; Montroy, Robert, Chief, Fire Department, Teaneck; Morano, Louis, Jr., Firefighter, Toms River; Moroney, Gerard, Lieutenant, Fair Haven; Morreale, Mitch, Firefighter, Lyndhurst; Morris, Gregory, Assistant Chief, Volunteer Fire Department, Lakehurst; Moss, Brian, Fire Chief, Hamilton Township; Mullen, Edward, Deputy Fire Chief, Iselin Volunteer Fire Company No. 1, Woodbridge Township Fire District No. 9, Woodbridge; Murk, George, Inspector, Franklin Lakes; Murphy, Paul, Deputy Fire Marshal, Highlands; Navarrette, Gary, Firefighter, Wayne; Nero, Joe, Firefighter, Freehold; Newman, Charles, Ex-Chief, Beachwood; Nixon, James, Firefighter, Somerset; Nolan, Kevin, Firefighter, Toms River; Novak, Joseph, Fire Inspector, Montgomery; Nunn, Edward, Jr., Captain/Fire Official, Florham Park; O'Gorman, Daniel, Certified Plumbing Designer, Green Advantage Environmental Certification; Olivo, Joseph, Fire Inspector/EMT, Flemington; Olivo, Joseph, Fire Marshal, Branchburg; Orlando, Richard, Fire Prevention Specialist, Manasquan; Pace, Joe, Journeyman, Toms River; Pack, Christopher, Firefighter, Toms River; Padovano, Anthony, Chief, Fire Department, Berkeley Heights; Palazzone, Joseph, Fire Captain, Fire District 7, Hamilton; Palmer, Ryan, Firefighter, Palmyra; Pentdril, Joseph, Firefighter, Gloucester Township; Perrolto, John, Firefighter, Neptune; Pfeiffer, Daniel, Chief, Delran; Pfeiffer, Michael, Firefighter, Delran; Pierce, Raymond, Captain, Fire District 7, Hamilton Township; Piersant, Dominick, II, Firefighter, Hampton Township; Pizar, Ronald, Fire Prevention Specialist/Inspector, Bureau of Fire Safety, Brick Township; Pizzano, Thomas, III, Fire Marshal, Florham Park; Ploehn, Jerry, Firefighter, Wayne; Pluchino, Frank, Firefighter, Lyndhurst; Pluta, Jake, Project Manager, Wayne; Polhemus, Wallace, Jr., Firefighter, Beachwood; Popolo, Joseph, Fire Subcode Official, Township of Berkeley Heights; Porreks, Jeffrey, President, Domestic Fire, Jersey City; Porrino, Ralph, Fire Official, River Dale; Porter, Timothy, Construction [page=2045] Official, Wayne; Prioli, Nicholas, Firefighter, Jackson; Prochnow, Wayne, 2nd Assistant Chief, Howell; Puco, Ronald, Fire Official, Netcong; Quirk, Shaun, Firefighter, Parsippany; Ravaioli, Richard, Fire Contractors Advisory Board, Union; Reed, J., Chief, Volunteer Fire Department, Three Bridges; Regan, Joe, Firefighter, Toms River; Reifer, Ralph, Chief, Freehold; Reilly, Daniel, Sprinkler Fitter, Toms River; Renaldi, Patrick, Fire Marshal, Borough of Manville; Reynolds-Beebe, Patricia, Lieutenant, Toms River; Rice, David, Firefighter, Toms River; Rich, Frank, President, Rich Fire Protection, Pleasantville; Ries, Edward, Building Inspector, City of Long Branch; Rihe, Walter, Chief, Fire Department, Waldwick; Risk, Robert, Jr., Captain, Fire Department, Beachwood; Rizzitello, John, Fire Marshal, Belmar; Roberts, Michael, Chief, Fire Department, Millburn; Roberts, J. Michael, Chief, Fire Department, Millburn; Robertson, Alan, Firefighter, Beachwood; Rogers, Leonard, Fire Official, East Orange; Romano, Robert, Fire District, Toms River; Rosario, Stephen, Senior Director, Northeast Region, American Chemistry Council, Albany, New York; Rosato, Dino, Pastor, Manchester; Roubottom, Ryan, Firefighter, Delran; Ruggiano, Edward, Fire Bureau, Hainesport Township; Ryder, John, President, Grenloch Fire Company, Grenloch; Sabo, Bert, Chief, Fire Department, Ventnor; Sarullo, Vincent, Managing Director, APEX Fund Services, Inc., Red Bank; Sassa, Daniel, Firefighter, Moorestown; Satt, William, Fire Department, Fire Official, Prospect Park; Scannelli, Carolyn, Deputy Township Clerk, Township of Warren; Scelin, Charles, Ex-Chief, Chatham; Scher, Donald, Firefighter, Hillsborough; Schoch, John, Lieutenant, Burlington; Schoch, Dean, Township of Ocean Fire District; Schroeck, Joe, Sprinkler Fitter, Hazlet; Schuegel, Steve, Jr., Fire Inspector, Lindenwold; Schwartz, Joseph, Captain, Hamilton Township; Schwartz, Vincent, Firefighter, Jackson; Scott, Arthur, Firefighter, South Bound Brook; Sears, Michael, Owner, High Quality H2O, LLC, Wall Township; Serrecchia, Joseph, Fire Official, Montville; Sharpless, Andrew, Firefighter, Township of Medford; Shorter, Russell, Fire Official, Hasbrouck Heights; Sickles, Stanley, Fire Marshal/Construction Official, Borough of Red Bank; Silversten, Eric, Assistant Executive Director, NECA, Northern New Jersey Chapter, Inc., Mountainside; Silvia, Richard, Chief Fire Marshall, Borough of Saddle River and Fire Subcode Official, Mahwah; Simone, Gary, Jr., Firefighter, Beachwood; Simpson, Thomas, Fire Marshal, Harrington Park; Sisto, Frederick, Firefighter, Brick; Skibinsky, Anthony, Property Inspection, Raritan Township; Smeraldo, Peter, Jr., Fire Chief, Essex County Fire Chiefs Association, West Orange; Smith, Louis, Fire Commissioner, Hamilton Township; Soltis, Richard, Legislative Committee Member, Central Jersey Code Officials/Mercer County Fire Prevention; Spencer, Craig, Firefighter, Lyndhurst; Spicozza, Daniel, Captain, Freehold; Spiecker, Jason, Chief, Beachwood; Stacy, Miriam, Firefighter, Jackson; Stapfer, Craig, Fire Inspector/Firefighter, Borough of New Providence; Stoppiello, Dean, Deputy Fire Marshal, Union Beach; Stubbington, E., Fire/Police Official, Beachwood; Stubing, John, Assistant Chief, Toms River; Sweeney, Peter, Sprinkler Fitter, Brick; Sweeten, N., Rio Grand Volunteer Fire Company, Secretary, Middle Township; Taormina, Larry, Firefighter, Wayne; Thorn, Thomas,

III, Deputy Fire Chief/Fire Marshal, Township of Medford; Tillotson, Suzan, Tillotson Design Associates, New York, New York; Tolos, James, Fire Inspector, Green Brook; Tomson, Douglas, Director, legislative Affairs, New Jersey Association of Realtors; Touhey, Timothy, New Jersey Builders Association; Trimmer, Olga, DEM Aide, Raritan Township; Trimmer, John, Deputy Fire Marshal, Raritan Township; Turcich, James, Commissioner, Delran; Tuttle, Christina, Fire Fighter/EMT, Blackwood; Van Dine, Ronald, Mayor, Wayne; Van Horn, Barry, Fire Marshal, Somerville; Vannoni, John, Firefighter, Blackwood; Velardi, Gregory, Fire Subcode Official, Wayne; Venezrvo, S., Sprinklerforum; Vicidomini, Chris, Firefighter, Toms River; Vincent, J. Michael, President, Vincent Pools Incorporated, Pipersville; Virtens, Bruce, Ex-Fire Chief, Mahwah; Vladyra, Ronald, Chief, Somerset; Wade, Edward, Battalion Chief, Springfield; Wagner, Matthew, Deputy Chief, Fair Lawn; Walken, Bruce, Cheesequake Volunteer Fire Department, Chief, Old Bridge Township; Walls, Gerald, Construction Official, Garfield; Walter, Board of Fire Commissioners, District 3, Jackson; Walters, Susan, Technical Assistant, Essex; Wargny, Sean, Firefighter/EMT, Delran; Wartel, Robert, Chief, Lyndhurst; Wartel, Michael, Fire Chief, Lyndhurst; Wartel, Bryan, Firefighter, Lyndhurst; Wartel, David, Firefighter, Lyndhurst; Weingroff, Carl, Trustee, Ocean County; Welling, John, III, Chief and Fire Official, Tabernacle; Westergaard, Donald, Firefighter, Freehold; Wexler, Raymond, Assistant Chief, Fire Department, Newton; Widmann, Brian, Deputy Fire Marshal, Township of Medford; Wieggers, Django, Construction Official, Borough of Eatontown; Williams, James, Building Subcode Official, Red Bank; Williams, Glenn, Captain, Kearny Fire, Kearny; Wisniewski, John, Assemblyman, District 19, Middlesex, Parlin; Wisnowski, Charles, Training Officer, Fire Department, Linden; Yates, James, Director, Fire and Emergency Services, West Windsor; Zaconie, James, Plumbing Subcode Official, Washington Township; Zuccarelli, Edward, Firefighter, Bound Brook; Zwirn, Jeffrey, President, IDS Research, Teaneck.

The following municipalities, agencies, and organizations commented, but the name of the commenter was unintelligible: Fire District No. 3, Jackson Township; Board of Fire Commissioners, Jackson; Chairman, Cinnaminson Fire District No. 1, Cinnaminson; Prospect Park Fire Department, Chief, Prospect Park; Star Cross Volunteer Fire Department, Chief, Franklin Township; Chief, North Plainfield Fire Department; Chief, Beach Haven Volunteer Fire Department; Chief, Leonia Fire Department; Chief, Highland Park Volunteer Fire Department; Chief, West Caldwell Fire Department; Robertsville Volunteer Fire Co.; Chief, Marlboro Fire Department; Chief, Tenafly Fire Department; Chief, Hamilton Township Fire Company; Division of Fire, Chief Inspector/Fire Official, Edison; Rusling Hose Fire Company, Fire Chief, Hamilton Township; Chief, River Vale Fire Department, Rivervale; Chief, Belleville Fire Department; Chief, Netcong Fire Department; Fire Marshal, Bureau of Fire Prevention, Rockaway Township; Gloucester City Fire Company; New Jersey Fire Sprinkler Advisory Board, North Brunswick; President, Princeton Junction Fire Department, West Windsor Township; President, Somerset County Fire Marshals, Somerset County; President, Elizabeth Avenue Fire Company, Somerset; Chief, Fire Department, Prospect Park; Fire Official, Fire Department, Prospect Park.

The following individuals commented on the proposal: Abitanto, Peter; Abrams, Robert; Accardi, Grace; Adams, John; Adams, Keith; Addison, Doreen; Agouia, Mark; Agrigliano, Patrick; Alamo, Roxanne; Albanico, Nat; Albanito, Philip; Alderton, John; Ale, Carlos; Alenick, John; Allen, Mrs. L.; Alvarez, Lisa; Alvarez, Michael; Ambrosio, Craig; Amodei, Kathy; Ander, Mike; Anderson, Mal; Anderson, C. Kenneth; Anderson, Chris; Anderson, Dan; Anderson, David; Anderson, James; Anderson, Michael; Anderson, Tim; Andracle, Rivey; Andrade, Alexander; Andreas, Shirley; Andrews, Gregory; Antozzeski, Mark; Applegate, Ruth; Asey, Lisa; Arbolino, Dominick; Archer, Kim; Aregjula, Charlotte; Argenbright, Nicholas; Arloff, Boris; Armor Auto Sprinklers; Armstrong, Freddie; Ashe, Julius; Atkinson, Phyllis; Attisano, Carl; Aubry, Cindy; Aubry, Jesse; Aubry, Paul; Avazier, Gary; Babcock, James; Babicko, Michael; Babitz, John; Bach, Brenda; Bachler, John; Bachler, Lyssa; Bachso, Philibert; Bader, Robert; Bagniewski, Edward; Bailey, Alfred; Ball, Peter; Balmas, David; Banner, James; Barbarich, James; Barber, Daniel; Barker, Lee; Baro, Charles; Barriale, Elaine; Barricelli, John; Bassin, Josh; Batchelor, Brian; Batty, Mark; Bauer, Charles; Bauer, Scott; Baumgarten, Paul; Bazk, Calvin; Becht, Joseph; Beck, Kenneth; Bendy, Gary; Benintende, Mary Catherine; Benz, David; Benz, Frank; Bernard, Ralph; Beyer, Dana; Bianchi, Cathleen; Bianchi, Ryan; Bielinski, Richard; Bishop, Troy; Bissey, Robert; Black, Lillian; Blackley, Donna; Blackwell, Brian; Blacttler, Samuel; Blair, James; Blank, Robert; Blumenstock, Lindsey; Blychanton, Fernando; Boccio, Frank; Bock, Kenneth; Bodine, John; Boelhower, James; Boeni, Robert; Boonstes, Richard; Borden, Darcie; Borden, William; Borges, Sergio; Borsina, Joseph; Bory, Walter; Bossano, Joe; Bowens, Mindy; Bowker, Matthew; Breeden, Dwane; Bresett, Gail; Brewer, Meghan; Brifite, Stephen; Briggs, Robert; Briggs, Charles; Bringas, Humberto; Brophy, Douglas; Brown, Richard; Browning, Paul; Bruscianelli, Ignasio; Buff, Howard; Buffalino, Anthony; Burkard, Brian; Burlew, Dean; Burn, Glenn; Burns, Helen; Burns, Joseph; Burns, Robert; Busch, Ernest; Butler, Kevis; Butschky, Jr., Joseph; Buyer, Dan; Byrd-Leitner, Aaron; Byrnes, Kenneth; Byrnes, Robert; Cabarle, Dennis; Cadena, Luz; Cadua, Alba; Cairns, Tom; Cairo, Ursula; Calmone, Anthony; Candura, Ellen; Capiello, Sylvia; Capoleon, Ricky; Capone, Frank; Caraboiullo, Henry; Carbone, Rocco; Carlin, John; Carnall, Judith; Carpenter, Kim; Carrasco, [page=2046] Pedro; Carroll, Judith; Casella, Jessica; Casey, Bill; Castrucci, Albert; Cas-

trucci, Patricia; Cataline, Alfred; Catapono, Joseph; Ceriouca, Richard; Chaote, Linda; Chard, Loren; Cherichel, Frank; Chevrier, Al; Chippendale, Ryan; Chlebowski, Chris; Chonko, Michael; Christensen, Carl; Chrzanowski, Mark; Chundana, Jenson; Cincotta, Paula; Cirz, Jeff; Cirz, Robert; Clark, Michael; Clarke, Thomas; Clayton, Bruce; Clayton, Sr., Harry; Cliff, John; Cocchi, Mark; Cocuzza, Caren; Cocuzza, Christopher; Cocuzza, Gerald; Coddington, Randy; Coe, Michael; Cohan, Bernard; Cohan, Elaine; Cole, Carlos; Coleman, Kim; Colfer, Shaun; Collone, Chris; Coltelli, Joseph; Conaly, Eileen; Conato, Brendan; Conaty, Cynthia; Conaty, Mike; Conaty, Sean; Conner, Jill; Convery, Jennifer; Convery, Patrick; Cooper, Eugene Coppola, Daniel; Coppola, Dominic; Cordos, Robert; Cosh, John; Cottone, Jeannette; Covert, Kevin; Cox, George; Cramiec, Tom; Cranmer, Thomas; Crisci, Joseph; Crosta, Nicholas; Crowell, David; Cuddy, Robert; Cullen, Marianne; Cullen, William; Culmone, Anthony; Cummings, Ryan; 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**Energy Subcode (N.J.A.C. 5:23-3.18: International Energy Conservation Code (IECC/2009 and ASHRAE 90.1-2007)**

1. COMMENT: The Building Codes Assistance Project (BCAP) supports the adoption of IECC/2009 as the minimum energy code for residential construction in New Jersey. BCAP also recommends adoption of ASHRAE Standard 90.1-2007, a more comprehensive commercial energy efficiency standard, for nonresidential construction. The adoptions, which should be without weakening amendments, would provide an effective means for New Jersey to comply with the latest national model energy codes, as well as with the American Recovery and Reinvestment Act, and thus to qualify for the full \$ 73.6 million in allotted State Energy Program stimulus funding from the United States Department



of Energy. This adoption would benefit the State for years to come by reducing building energy consumption and pollution, increasing utility system reliability, creating a more comfortable living and working environment, and saving homeowners and businesses money through [page=2048] reduced energy bills. Building efficiency should be a central component of New Jersey's efforts to secure and stable and prosperous energy future.

2. COMMENT: The Responsible Energy Codes Alliance (RECA), a broad coalition of energy efficiency professionals, regional organizations, product and equipment manufacturers and trade associations, supports adoption of IECC/2009 and ASHRAE 90.1-2007 without any weakening amendments. Chapter 11 of the IRC should be replaced with a direct reference to IECC/2009, in order to eliminate inconsistency and make sure that the stronger provisions apply. In order to receive State Energy Program grants of up to \$ 73,643,000, New Jersey must adopt IECC/2009 or equivalent for residential construction and ASHRAE 90.1-2007 or equivalent for commercial construction, and must implement a plan to achieve 90 percent compliance with these codes within eight years. By implementing and enforcing IECC/2009, New Jersey will assure that every new home buyer gets a reasonably efficient home. A study by ICF International, a widely recognized energy consulting firm, concluded that compliance with IECC/2009 would result in 11.6 cost savings over IECC/2006 in climate zone 4 and 10 in climate zone 5. Only through adoption of IECC/2009 without New Jersey specific amendments will the Department enable builders and code officials to take advantage of free Department of Energy training, free compliance software and other programs.

3. COMMENT: The American Chemistry Council (ACC) supports the proposed changes to the Uniform Construction Code concerning energy conservation, specifically the adoption of IECC/2009 and ASHRAE 90.1-2007 without weakening amendments. ACC urges compliance with the latest national energy codes, as well as with the requirements of the American Recovery and Reinvestment Act. By adopting IECC/2009, New Jersey will qualify for more than \$ 289 million in stimulus funding from the United States Department of Energy. Adoption of these codes will benefit the state for years to come by reducing overall building energy consumption and pollution, increasing utility system reliability, creating more comfortable living and working environments and reducing energy bills.

4. COMMENT: The Northeast Energy Efficiency Project (NEEP) strongly endorses the action by the Department to update to IECC/2009 with a minimum number of amendments. IECC/2009 has been shown to increase energy efficiency by 15 percent in residential construction, while ASHRAE 90.1-2007 has been shown to increase energy efficiency by eight percent in commercial uses. However, NEEP strongly urges the Department not to delete Section 402.3.6 of IECC/2009, the replacement window requirement, and not to delay implementation of the air sealing and duct tightness requirement.

Deleting Section 402.3.6 would result in unnecessary delays in the introduction of energy efficient windows to existing homes, thus resulting in excess energy use. Windows meeting IECC/2009 requirements are readily available from many manufacturers, so availability is not a problem and there is no reason to continue to allow energy inefficient windows in the New Jersey marketplace. Installation of code-compliant windows would have a payback period of between 8.3 and 9.2 years, well within the lifetime of a typical window.

The air sealing and duct testing requirements are among the most significant energy saving measures in the code, improving energy efficiency by 12 percent over IECC/2006. In Section 402.4.2, the house can be tested to determine if it meets a code-specified level of tightness or code officials can perform a visual inspection based upon a detailed checklist. In Section 403.2.2, duct tightness testing is not required if the ducts are located in conditioned space.

The Department has requested comments regarding availability of a qualified workforce and the cost of testing. In response, NEEP states that an infrastructure of qualified testers exists in New Jersey and across the Northeast due to the popularity of Energy Star homes and that there are numerous training programs and trainers who have worked in New Jersey. The supply of trainers will increase in response to other states in the region incorporating this requirement into their energy codes in 2010. NEEP further states that typical prices for blower door tests and duct tightness tests are each \$ 300.00, based on the cost found during the construction of Energy Star homes.

Rejection of the amendments deleting the window replacement requirement and delaying the implementation of the air sealing and duct tightness requirements would allow New Jersey to realize the significant potential energy savings promised by the adoption and implementation of IECC/2009.

RESPONSE TO COMMENTS 1 THROUGH 4: The Department thanks the commenters for the information they have provided, appreciates these expressions of support and agrees with the points they have made. The Department does not regard the amendments that have been made to the model codes as "weakening," since the specific issue of concern, the replacement of windows in existing buildings, is addressed in the Rehabilitation Subcode, which is cur-

rently under review with the intention of proposing amendments that will upgrade requirements in, among other areas, energy conservation. The Department thanks all who commented on the availability of a qualified workforce. In light of general concerns about economic conditions affecting the construction industry, however, the testing provisions of the IECC/2009 are being adopted with an effective date of January 1, 2013.

5. COMMENT: MaGrann Associates believes the update to the Energy Subcode to be timely and reasonable, and its cost to be less than the Department appears to have assumed in its proposal summary. About 25 percent of new construction is already meeting the proposed requirements through participation in the Energy Star program. Participating builders and subcontractors have incorporated some or all of the necessary installation requirements into standard practice and the foundation for an infrastructure to perform the required verification and support is already in place.

The commenter is concerned, however, that certain proposed provisions appear to dilute the desired advances in energy performance by retaining allowances for tradeoffs that have been superseded by market practice, to the extent that the net impact of these modifications may fall short of the goal of meeting or exceeding IECC/2009. The areas of concern are as follows:

a. The proposal states that IECC/2009 contains enhanced requirements for insulation, installation of efficient mechanical equipment and, in some cases, higher efficiency windows. However, the sections of IECC/2009 that address these issues, notably tables 402.1.1 and 402.1.3, have been eliminated and replaced with requirements that are equivalent to IECC/2003. The proposed table 402.1.3 to be inserted is identical to the current standard, which is only two percent more stringent than IECC/2003. Adoption of this language will put thermal envelope insulation standards further behind the new IECC/2009 standards.

b. Since the duct leakage test and blower tests would be conducted at the same time if the rough-in duct testing method is not used, the estimated costs should be only half what the Department has stated (\$ 400.00 and \$ 200.00 to \$ 400.00, respectively). While estimated equipment costs appear to be accurate, the IECC/2009 testing requirements do not include thermographic testing, so the cost given for an infrared camera is irrelevant. Furthermore, since most qualified testing professionals already own the necessary equipment, they would not incur any incremental investment costs.

c. There are pros and cons of the timing of testing that can impact the feasibility of either approach. Duct testing at rough-in allows additional time for remediation, but presents significant implementation challenges because buildings are not complete and often lack on-site power, while scheduling opportunities are limited by insulation and drywall installation schedules. Cost efficiencies dictate that this option be used in combination with visual inspection. However, this does not provide the same confidence level as a final test result. Final testing, on the other hand, while faster and more accurate, offers limited time and opportunity for cost effective corrective action that may be needed. The commenter's recommendation is that final testing be used as confirmation in combination with thermal envelope and duct sealing guidelines.

d. Duct leakage testing is currently part of the Home Energy Rating System (HERS) process and certified HERS raters and field inspectors are available to conduct this testing. BPI offers training certifications for heating and AC/HP specialists that includes duct testing.

e. The proposal does not indicate who can provide the blower door or dust leakage testing. The commenter recommends that a suitably trained, qualified and insured independent third party be employed for that purpose in order to avoid any conflict of interest.

[page=2049] f. Delay in implementation of the testing requirements will result in the construction of more homes without the desired energy savings, since a requirement without verification does not provide the intended results. The approximately 25 percent of new homes built in New Jersey that participate in the Energy Star program now undergo both of these tests and benefit from the resulting feedback. The commenter recommends increasing the maximum duct leakage standard to 10 cubic feet per minute (CFM)/100 square feet. for multifamily dwelling units of less than 1,000 square feet because such units have difficulty meeting the standard of six CFM/100 square feet. due to the very low floor area denominator, the fact that leakage between dwelling units is indistinguishable from leakage to the outside and the challenge of achieving cost-effective incremental tightness at such low levels.

g. Continued use of the residential high-efficiency mechanical tradeoff may erode potential energy savings. Since the last code revision, the use of high efficiency heating equipment and basement wall insulation have both become standard building practice with well-understood benefits. There is no need to continue a tradeoff that was needed in the past to ease the transition to a code requirement for basement insulation that is now a practice embraced by much of the market.

RESPONSE: The Department's responses to the specific comments are as follows:

a. The commenter appears to have misread the proposal. The two tables referred to in the comment are proposed for adoption without amendment, thereby adopting the thermal envelope requirements of the IECC/2009.

b. If it indeed turns out to be the case that testing costs are lower than the Department has projected, that would indeed be a positive development.

c. The IECC requires one inspection. The builder may choose to conduct the inspection at either the rough-in or the final. The Department believes that one inspection is sufficient; in addition, increasing the number of required inspections is beyond the scope of the proposal.

d. The Department appreciates the information concerning availability of certified Home Energy Rating System raters and field inspectors, which addresses industry concerns about the availability of a sufficient number of persons qualified to conduct the required tests.

e. The Department does not have authority to change the model code so as to increase duct leakage standards.

f. The commenter has misread the proposal. The text in question has been proposed for deletion, thereby eliminating the residential high-efficiency trade-off.

6. COMMENT: The New Jersey Business and Industry Association (NJBIA) is committed to balancing increased code requirements with increased costs. The proposed rules acknowledge an increase in construction costs that are expected to be offset by energy savings. NJBIA hopes that the Department will review the new requirements to make sure that the payback period is less than seven years, as required by P.L. 2009, c. 106.

RESPONSE: Adoption of the 2009 model energy codes is not addressed by P.L. 2009, c. 106.

7. COMMENT: NJBIA believes that the testing requirements should become operative at a later date, and not upon adoption, since the compliance testing must be done by certified professionals, and the licensing board for such professionals has yet to be established, and the requirements can therefore not be complied with at present. Adequate time is required for both the construction industry and inspectors to acquire the knowledge needed to implement the new requirements.

RESPONSE: The new licensing board that is in the process of being established is for HVAC contractors, not for persons doing compliance testing. As indicated in responses to prior comments, however, the testing requirements are being adopted with an effective date of January 1, 2013, in recognition of general State concern about economic conditions affecting the construction industry.

8. COMMENT: The New Jersey Apartment Association (NJAA) supports the adoption of IECC/2009 and ASHRAE 90.1-2007 as the State's Energy Subcode. However, this new Energy Subcode should not be in effect until the needed certification and educational curriculum for construction workers, testers and inspectors is established and the Department has issued guidelines concerning final inspection and certification of compliance with the Energy Subcode.

RESPONSE: Ensuring compliance with new energy conservation requirements is a national issue and any evidence that necessary personnel are not available must be addressed by the agencies and organizations that have established the requirements at the Federal level. New Jersey must have these codes in place in be in compliance with the American Recovery and Reinvestment Act and thus qualify for Federal stimulus funding. The Governor has certified to the Federal government that New Jersey would adopt IECC/2009 and ASHRAE 90.1. However, in recognition of general economic conditions affecting the construction industry, the effective date of the testing requirements is being set at January 1, 2013.

9. COMMENT: The Department has requested input on the effective date of the duct and blower door testing requirements of IECC/2009. In light of both the cost and the lack of qualified professionals to conduct on-site testing, the New Jersey Builders Association (NJBA) recommends that the testing requirements be eliminated altogether, though it asks whether such modification would be possible without risking loss of Federal stimulus funds. In today's unhealthy housing market, any additional costs to new construction will further diminish an economic revival.

RESPONSE: As previously stated, establishment of the model energy codes, including the testing requirements, is necessary in order for New Jersey to be in compliance with the American Recovery and Reinvestment Act. However, in recognition of general economic concerns affecting the construction industry, the effective date for the duct testing requirements shall be January 1, 2013.

10. COMMENT: The NJ IECC/2006 accurately divides the State into four climate zones, while the un-amended IECC/2009 only divides it into two zones, thus losing climatic precision and resulting in excessive insulation and larger wall stud sizes in regions where it is not cost-effective. NJBA questions whether local modification of IECC/2009 is possible without risking the loss of Federal stimulus funds. If so, NJBA recommends that such modifications be made.

RESPONSE: The national climate zone standards, which divide New Jersey between two zones, must be adopted as is in order for New Jersey to be in compliance with the American Recovery and Reinvestment Act.

11. COMMENT: NJBA asks whether the Department has considered the unhealthy interior breathing atmosphere that will result from the extreme thermal tightness required by IECC/2009. Will enough fresh air come into the house to prevent mold growth and the build up of airborne toxins?

RESPONSE: The Department does not agree that an "unhealthy interior breathing atmosphere" will result from constructing homes to meet the IECC, which was developed at the national level with input from Federal agencies and other organizations having expertise with regard to indoor air quality. The Department does not believe that homes constructed to meet the IECC will encourage the growth of mold.

12. COMMENT: Will the Department offer energy rebates to new home buyers to offset increased costs associated with the more stringent code requirements? NJBA recommends that Federal stimulus funds be used for that purpose.

RESPONSE: The Division of Codes and Standards does not have funding available with which to provide rebates. Funding may be available from other sources.

13. COMMENT: The proposal states that new energy requirements would lead to average annual savings of \$ 235.00, or \$ 1,645 over seven years. The New Jersey Association of Realtors (NJAR) observes, however, that the energy efficiency testing requirements in the rule proposal, such as duct testing, would cost approximately \$ 2,100. If the cost of this testing were passed on to homeowners, it would take approximately nine years to recoup the amount of money required to conduct the tests.

RESPONSE: Energy efficiency testing would only cost \$ 2,100 per unit if new equipment had to be purchased for the inspection of each unit, which is clearly not the case. The Department believes its projection as to annual energy savings to be accurate, and would further note that the seven-year payback requirement established by P.L. 2009, c. 106 do not apply to the adoption of the 2009 editions of the model energy codes.

[page=2050] 14. COMMENT: Tillotson Design Associates regards certain requirements in ASHRAE 90.1-2007 as unduly restrictive and recommends alternatives based on actual cases. Specific recommendations are as follows:

a. The lighting power density for Performing Arts Theatre Dressing Rooms is too low at .6 when the makeup mirror lighting is included. Actors Equity requires incandescent lighting on all sides of the makeup station, which is used on a very limited basis and should be exempt from the lighting power density calculations. Makeup mirror lighting should be separately controlled.

b. The requirement of 1.4 watts per square foot for gymnasiums may be adequate for athletic events, but not for other uses for which these spaces are commonly used by schools and universities. Separate lighting systems should be provided for athletic and non-athletic uses. An accommodation should be made for a control condition where both systems can be installed, but not operated simultaneously, thus allowing for the flexible lighting solutions required, while still restricting the maximum load at any one time to 1.8 watts per square foot.

c. The 0.9 wattage allowance for restrooms is only marginally sufficient for large restrooms, but not at all sufficient for meeting the 20 foot-candle minimum set by many institutions for smaller restrooms with less efficient room cavity ratios. This is the minimum light level necessary to assure clean and safe restroom environments. The commenter recommends that the lighting power density (LPD) for rooms under 12 feet wide be increased to 1.23 watts per square foot.

d. The 0.7 watts per square foot allowance for hospital patient rooms does not allow for the lighting flexibility required by many hospitals. The minimum power density for patient rooms where the lighting is critical for the tasks of the nurse and the janitor and for the patient's wellbeing should be 0.79 watts per square foot. The allowance should be increased to 1.5 watts per square foot in order to accommodate indirect and highly flexible lighting using new high efficiency fluorescent and LED sources.

e. The groupings of dining rooms in ASHRAE 90.1-2007 are too broad. There should be separate categories for spaces like corporate dining rooms and school or university dining rooms that have distinct requirements. Another rec-

ommendation would be to add, under "Additional Interior Lighting Power," a credit for lighting that accentuates the architectural features of the space that require special lighting conditions.

f. Allowances must be made for highlighting significant architectural features in historical spaces. Exemptions for architecturally significant and challenging spaces are required.

g. The entire ASHRAE method of limiting LPDs is too prescriptive and does not leave enough room for freedom of choice for unique, creative environments that increase productivity and enhance health and wellbeing. There are many unique building forms and spaces that do not fall neatly into this "cookie cutter" approach. It would be better to focus on monitoring whole building energy uses, such as mandating that a certain percentage of lights in a high-rise building shut off after midnight, or mandating minimum and maximum temperatures. There should be rules about leaving windows or doors open when heat or AC is on, perhaps requiring automatic shutoff when a window or door is open for more than a minute. The code should prohibit gasoline stations and car lots from being illuminated all night at 50 foot candles or more. Such measures would save a lot of energy without compromising productivity and the quality of our environments.

RESPONSE: The energy standards must be adopted without modification in order for New Jersey to be in compliance with the American Recovery and Reinvestment Act, as the Governor has certified to the Federal government it would be, though the testing requirement will only become effective on January 1, 2013. However, chapter 9 of ASHRAE 90.1 does provide for space by space alternatives as part of overall compliance, while the State Uniform Construction Code allows variations to be obtained in specific situations where they can be justified. Recommendations to amend the model codes to address situations such as those presented by the commenter should be addressed to the ASHRAE organization and the United States Department of Energy.

15. COMMENT: A commenter notes that balancing the construction or renovation of a new building is intended to verify that all of the HVAC systems operate properly and meet performance criteria and that N.J.A.C. 5:23-2.23 currently requires Class I and II buildings of Groups B and E to have the HVAC systems balanced. He recommends that dwelling units be included in N.J.A.C. 5:23-2.23, and further recommends that New Jersey adopt the testing requirements of IECC/2009 and that these requirements be effective immediately upon adoption. He states that a balancing report would include equipment model numbers, serial numbers and electrical voltage and amps and that the information from the report would assist inspectors in confirming that the installed equipment complies with the code, as well assisting consumers and contractors in verifying that the equipment that is installed is that same as that which they purchased.

RESPONSE: The issue of requiring balancing is beyond the scope of the proposal and therefore cannot be addressed on adoption.

**One- and Two-Family Dwelling Subcode (N.J.A.C. 5:23-3.21): International Residential Code (IRC/2009)**

16. COMMENT: The New Jersey Builders Association (NJBA) recommends that N.J.A.C. 5:23-3.21(c)3i be revised to allow a full third story in one- and two-family dwellings and townhouses of type VB construction without the installation of fire sprinklers or protected construction, as permitted by the un-amended International Code framework. Expert testimony in the code development process indicated that there is no appreciable risk in allowing such construction in dwellings built to the IRC. Construction of a full third story provides an additional 22 percent of habitable space on the same building footprint without significantly increasing the cost. Since the Department's concerns with the fire separation distance have been addressed in the 2006 edition of the IRC and the Department has kept the stricter requirements of FTO-13, the full use of the third story without protected construction or sprinklers should be allowed.

RESPONSE: In accordance with N.J.S.A. 52:27D-123.b(1), the Department can only adopt amendments to adopted subcodes of the State Uniform Construction Code if such amendments are essential to carry out the intent and purpose of the Act, in contrast to the corresponding provision of the subcode then currently in effect. Allowing three-story unprotected wood frame structures would not enhance protection of public health, safety and welfare, which is the purpose of the Act, as stated in N.J.S.A. 52:27D-120.e.

17. COMMENT: Section R312 of the NJ IRC/2000 contained an exception in which a landing was not required on the exterior side of a sliding door. Section R311.4.3 of NJ IRC/2006 restricted this exception to only where there are two or fewer risers. Placing a landing on the exterior side of a sliding door where there are two or fewer risers has resulted in a trip and fall hazard, since the landing must extend at least 36 inches in the direction of travel and can be up to 30 inches high above the surrounding surface before a guard is required, and has also resulted in an excessive burden to

design and construct. NJBA recommends reversion to the language of NJ IRC/2000, or at least only requiring a landing on the exterior side of a sliding glass door when there are three or more risers.

RESPONSE: This comment is beyond the scope of the proposal, since no changes to this section were proposed. However, the Department will consider the comment for future rulemaking.

18. COMMENT: NJBA recommends that all references to seismic design found in chapters 4, 5, 6 and 7 of IRC/2009 be deleted, since they are not applicable in New Jersey, thus reducing the size of the New Jersey edition of IRC/2009 and saving paper.

RESPONSE: The Department believes that a general statement as to the inapplicability of the seismic design standards should be sufficient. It will, however, consider the need for such deletions in any future proposal on this subject.

19. COMMENT: The change in IRC/2009 that allows more than 660 gallons does so by way of an exception. The Fuel Merchants Association of New Jersey (FMA) has been told by the International Code Council (ICC) that this exception is automatic, meaning that there is no need for a variation from the local enforcing agency, and that there is no need to request an exception so long as the requirements of NFPA 31 are followed. Does the Department agree?

RESPONSE: The Department agrees that there is no need for any variation for outdoor storage at least five feet from the property line, [page=2051] regardless of the amount of liquid stored, or for indoor storage complying with National Fire Protection Association (NFPA) requirements.

20. COMMENT: The Department proposes to alter by the ICC language by deleting the words "inside buildings," thus allowing more than 660 gallons to be stored outside of buildings. Currently, NFPA 31 allows storage of more than 660 gallons outside of buildings, provided that the installation is done in accordance with NFPA 30, which the IRC allows for outside aboveground tanks, provided they are at least five feet from an adjoining property line and protected from weather and physical damage. FMA therefore asks why the Department considers the deletion of "inside buildings" to be necessary.

RESPONSE: This deletion is necessary in order to make it clear that there are no limits on outside storage as long as the applicable NFPA standards are met.

21. COMMENT: One commenter states that deletion of chapter 1 of IRC/2009, the administrative chapter, results in the loss of the crucial piece of code language that establishes the intended scope and limitations of the IRC as published by the International Code Council. He notes that much of this language is included in the definition of Group R-5 in the State Uniform Construction Code, but that the requirement for a separate means of egress is not retained, thus creating some conflict because, while it is possible to design a two-family house with a shared egress, there are no standards as to how this may be accomplished. This complicates a situation in which, in the absence of clear prohibitory language, designers and officials are incorrectly using the IRC for two-family buildings that are not eligible for such design. The IRC does not include this language because it is simply not permitted, and that is clear in the model edition of the code. By deleting chapter 1, we lose the sentence that makes clear the intent of the document not to include buildings with shared egress components. Such buildings should be built using the IBC, since that document contains the provisions necessary to design for protection and fire ratings of common egress elements, interior environment (heating, light and ventilation) and smoke detection equipment, among other aspects of building design for residential buildings with common or shared egress elements. The language should either be retained from chapter 1 or moved into the Section R300 of the New Jersey edition, where height and area of IRC buildings are regulated. It is crucial that the language be included so as to ensure that the intended scope is applied in the field. Additionally, the definition of Group R5 in the New Jersey edition of the IBC should include the prohibition on shared or common egress elements. With these changes, the commenter supports the adoption of the proposal.

RESPONSE: Since N.J.A.C. 5:23 contains all of the administrative provisions of the State Uniform Construction Code, the administrative sections of the model codes that are adopted as subcodes are never included. Since it is not possible to build a house in which two or more units have a common means of egress under the IRC, the points that the commenter makes are already implicit in the Code. However, the Department agrees that this point should be made clear in the IBC, and it is therefore modifying the group definition of R-5 in the IBC on adoption in order to ensure consistency with the requirements of the IRC.

### **Sprinklers in One- or Two-Family Dwellings**

22. COMMENT: More than 1,700 comments were received from individuals and organizations urging adoption of the 2009 IRC requirement that fire suppression systems be installed in all new one- and two-family residential dwellings, effective January 1, 2012, because doing so would protect the lives of both building residents and firefighters, would protect property and would reduce insurance costs. The requirement that sprinkler systems be installed in all new one- and two-family residential construction is broadly supported by the fire service and fire safety organizations and professionals. Among the comments made in support of the proposal are that home fires result in over 3,000 deaths and 60,000 serious injuries annually that could have been prevented by sprinkler systems, that the typical cost of installation of sprinkler systems in new homes is \$ 1.61 per square foot, or one percent of the value of the home and that the United States Fire Administration has endorsed installation of residential fire sprinkler systems as the solution to the growing national fire problem.

23. COMMENT: One commenter stated that he is not in support of the proposal, but does not provide any rationale for his disagreement.

24. COMMENT: A former code official regards the proposal to require sprinklers in one- and two-unit dwellings as "marginal" and "driven by financial self-interest of installation and maintenance companies at homeowner expense with no realistic return value." He claims that there are many things we can legislate which will save more than the one thousandth of one percent claimed for this provision, and he believes even that claim to be untrue. He thinks it would save more lives if the code were changed to restore the requirement for full firewalls in garden-type apartment, instead of the present common attics that are now allowed, and which he claims are causing frequent wipeouts of entire apartment blocs.

25. COMMENT: The National Fire Protection Association (NFPA) fully supports the adoption of the requirements to install automatic fire sprinkler protection systems in all new one- and two-family dwellings effective January 1, 2012. Nearly 3,000 people die every year in house fires in the United States, 84 percent of them in one- and two-family houses. Firefighter deaths in such structures represent 92 percent of the total of all firefighter deaths in residential structures. Current death tolls from home fires are not acceptable.

All model safety codes now require the use of sprinklers in new one- and two-family homes, since sprinklers provide the highest level of protection by responding quickly to reduce the heat, flame and smoke from a fire, thus giving building occupants valuable time to get to safety. Roughly 90 percent of the time, fires are contained by just the operation of one sprinkler. Each individual sprinkler is designed and calibrated to go off when it senses a significant heat change. Only the sprinkler closest to the fire will activate, spraying water directly on the fire.

Smoke alarms do a great job of providing early warning. However, they do not control the spread of fire. Sprinklers provide those at greatest risk--young children, the elderly and the disabled--with additional time to escape or be rescued, and also protect firefighters who would otherwise face untenable conditions when they arrive to rescue people who are trapped. While working smoke alarms cut the risk of dying in a home fire by 50 percent, sprinklers reduce it by 80 percent. Though it is true that 63 percent of home fire deaths occur in homes where there is no working smoke alarm present, it is also true that 37 percent of such fire deaths occur in homes where the smoke alarms are working.

Another concern is that one-half to two-thirds of newer one- and two-family homes are of lightweight construction, which can endanger firefighters. Sprinklers can offset this increased danger and create a safer environment in which firefighters can operate. It is also the case that sprinklers are the most effective means of protecting property, reducing the average property loss by 71 percent in communities with longstanding sprinkler requirements.

The Fire Protection Research Foundation, an affiliate of the NFPA, has determined that the cost of installing residential sprinkler systems averages \$ 1.61 per sprinklered square foot, inclusive of all costs to the builder, which is less than people are typically willing to pay for such upgrades as granite countertops and whirlpool tubs. Maintenance of standard home sprinkler systems can easily be done by the homeowner and requires only a simple visual inspection and the opening of valves to make sure that water is flowing through the system. A recent analysis conducted by Newport Partners for NFPA found that the enactment of sprinkler ordinances did not have any detrimental effects on housing supply and costs.

The National Institutes for Standards and Technology conducted a cost-benefit analysis of residential fire sprinkler systems that described and calculated the present value of net expected benefits (PVNB) to a homeowner from installing an NFPA 13D fire sprinkler system in three single family housing types--colonial, townhouse and ranch. Benefits were estimated for reduced risk of death and injury, reduced risk of direct property loss, reduced risk of indirect costs and reduced homeowner insurance premiums, while the costs were for the purchase and installation of the system. The

PVNB ranged from \$ 704.00 to \$ 4,801 for colonials, \$ 884.00 to \$ 4,981 for townhouses, and \$ 1,950 to \$ 6,048 for ranch homes. The systems can be inspected and maintained by the homeowners themselves, thus reducing costs.

[page=2052] NFPA 13D requires only the standard operating water pressure of the domestic plumbing system. Most domestic water supply systems can manage the operating pressure demands of a home fire sprinkler system. Flow and pressure requirements can be met through a 3/4-inch service line and meter. Systems can be designed to use water that does not pass through the meter. According to residential well and tank manufacturers, well systems can be set up to effectively address a fire protection application by using a larger well pump and larger expansion tanks. A recent NFPA survey of 20 communities with a sprinkler ordinance in effect concluded that there were no examples of insurmountable problems or issues regarding integration of residential sprinklers and water supply systems.

The Insurance Services Office, Inc. (ISO) is an independent statistical, rating and advisory organization serving the property and casualty insurance industry. The standard ISO Dwelling Fire and Homeowners Programs contain available premium credits of up to 13 percent for full sprinkler protection of a home and up to eight percent if the attic, bathrooms, closets and attached structures are not sprinklered but do have fire detection equipment. The ISO standard homeowner policy forms provide coverage for accidental discharge or overflow of water from a fire sprinkler system at no extra charge.

The ISO is modifying its grading schedule to give more credit for community fire protection. Home fire sprinkler systems are included in this grading. The adoption of the requirement to install fire sprinkler systems in new one- and two-family homes will improve the grading score and be likely to have a favorable impact on insurance rates.

26. COMMENT: The New Jersey Builders Association (NJBA) disagrees with the Department's reasons for proposing to require automatic fire sprinklers in all new one- and two-family dwellings and townhouses and does not believe sprinklers to be a cost-effective means of improving life safety in new dwellings built to current IRC standards. Many more lives would be saved by making sure that all dwellings have operating smoke detectors. This requirement would increase housing costs, thereby consigning those for whom new housing would now be unaffordable to older housing lacking both sprinklers and modern construction features that protect safety. The NJBA asks how long it would take for a sprinkler mandate to result in any actual reduction in fire-related deaths.

27. COMMENT: The NJBA expects that the actual cost of installing a fire sprinkler system in new detached single family homes would be at least double the Department's estimate of \$ 2,500 for a 3,338-square-foot two-story colonial with a basement, \$ 2,300 for a three-story townhouse, and \$ 1,000 for a one-story ranch, and would be even higher, approximately \$ 10,000 per house, where water pressure and flow rates do not meet the requirements of NFPA-13D, as in the case of certain well systems and water softeners.

The NJBA therefore asks the following questions:

- a. Would the Department provide rebates to offset the difference between its estimates and actual costs? NJBA recommends that penalties and fees collected by the Division of Fire Safety be used for that purpose.
- b. Would it consider extending the effective date if the housing industry has not recovered within the next two years?
- c. How will the effective date be enforced and how will the six-month grace period be applied?
- d. A lack of sufficient experienced designers and installers will cause costly construction delays. Will the Department assure the availability of sufficient design professionals and contractors to meet the demand of designing and installing IRC/2009 P2904 and NFPA 13D compliant sprinklers as both stand-alone and multipurpose systems?
- e. Does the Department have an action plan for educating plan reviewers, inspectors and the public regarding fire sprinkler for new one- and two-family dwellings and townhouses?

RESPONSE: The Department agrees with the NFPA, as well as with the vast majority of those who commented on this aspect of the proposal, as to the benefits of installation of automatic fire sprinkler protection systems in new one- and two-family dwellings. In the current economic crisis, however, the paramount State policy concern is economic recovery and the removal and non-imposition of impediments to business that might in any way delay or obstruct that recovery. It is the intention of the Department to monitor both the recovery of the residential construction industry in New Jersey and the economic impact of residential sprinkler installation requirements in other jurisdictions and to revisit this issue at the appropriate time. In the interim, the Department is adopting the technical requirements for the in-



stallation of automatic fire sprinkler protection systems in new one- and two-family dwellings in order to provide standards for those who choose to install such systems.

28. COMMENT: In order to reduce professional fees, the NJBA recommends that plumbing contractors and sprinkler contractors be allowed to prepare sprinkler plans for Class III structures, in the same way that mechanical, plumbing and electrical plans are already allowed to be prepared by the respective contractors.

RESPONSE: This comment is outside the scope of the proposal and is covered by the applicable professional and occupational licensing laws.

29. COMMENT: The NJ IRC currently requires either protected construction or an NFPA 13 or 13R fire sprinkler system in order to utilize the full third story of a new dwelling. The NJBA recommends that the Department add IRC/2009 P2904 and NFPA 13D systems as another acceptable option for utilizing the third story.

RESPONSE: The Department agrees that this recommendation has merit. Because it is outside the scope of the proposal, the Department can take no action on it at this time, but will consider it for action in the future.

30. COMMENT: The New Home Warranty rules may have to be amended to assure that all aspects of sprinkler systems, including pipe freeze ups, defective sprinkler heads and leaks, are covered. If warranty rates rise as a result, housing costs will increase.

RESPONSE: If builders and contractors exercise the same care in their installation of fire sprinkler systems as they should with other systems, there would be no reason for warranty rates to rise as a result of such installations. Any necessary amendments to the New Home Warranty rules will be made in due course.

31. COMMENT: The New Jersey Manufactured Housing Association (NJMHA) is concerned that manufactured homes, which are pre-fabricated in factories, may have sprinkler systems installed that require an amount of water pressure that may not be available at the place where the home is installed, and thus will not operate properly. Owners and operators of land-lease communities in New Jersey have indicated that their existing infrastructure would not support the systems that would be installed in factories, thus requiring installation of new equipment of tanks, all of which would increase the cost of the housing. NJMHA urges that sprinklers not be required in single family homes, or at least not in manufactured housing. Other states have either declined to adopt the IRC/2009 sprinkler standards or have excluded either one- and two-family residences or HUD-regulated manufactured housing. California has recognized the preemptive nature of HUD standards. New Jersey must undertake careful analysis of this issue to see if other options may better benefit its residents. The Department conducted such an analysis with regard to high-rise structures and decided not to require that they be required to have sprinkler systems. A similar decision would be appropriate for HUD-regulated manufactured housing.

RESPONSE: The Department agrees with California that HUD standards are preemptive with regard to manufactured housing built to those standards.

32. COMMENT: NJMHA observes that sprinkler systems differ from other fire protection devices. Unlike fire extinguishers, they do not have a gauge that can readily be observed and read in order to determine if they are functioning properly. Unlike smoke detectors, they do not have batteries that can easily be checked. Since sprinkler systems in homes cannot easily be tested, there is no way of knowing if they will work properly in a fire emergency. The risk of damage to the property associated with the testing of sprinklers will discourage routine testing. In the event of activation of the system, the manufactured home and its contents would be destroyed. NJMHA is also concerned about the presence of mold associated with fire sprinkler systems, especially when there are leaks in areas where they are not noticed, or which the owner cannot afford to repair.

RESPONSE: As has been indicated, manufactured homes built to HUD standards are not subject to the One- and Two-Family Subcode, and this proposal therefore does not affect them. In response to the assertion that testing of sprinkler systems is difficult, the Department would point [page=2053] out that, as with any other system in a house, homeowners should be alert to any problems and contact repair and maintenance contractors as needed. Properly maintained sprinkler systems should not cause any leakage or mold problems.

**Plumbing Subcode (N.J.A.C. 5:23-3.15): National Standard Plumbing Code (NSPC/2009)**

33. COMMENT: The Department proposes to delete the term "adopting agency" from the text of NSPC/2009. However, the text of NSPC/2009 uses this term in several places, including Sections 2.26, 6.2.1.3, 6.2.7, 6.2.10 and

6.2.12. The commenter recommends retaining the term and defining it as "the Federal, State or Local agency, board or authority, including, but not limited to, water and sewer utilities or municipal ordinances, having a direct impact regarding the specific plumbing code provisions as stated herein." The definition of "adopting authority" as written, and without modification, is actually the Department.

RESPONSE: The Department is the sole adopting authority with regard to all code requirements applicable to work subject to the State Uniform Construction Code. Addition of reference to the possible jurisdiction of other agencies would be beyond the scope of the proposal.

34. COMMENT: Comments were received from nine firms that sell, service, design, build and/or maintain pools, spas and hot tubs urging that the proposed amendments, in particular the adoption by reference of the APSP-7 Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch Basins, be adopted without change.

RESPONSE: The Department agrees with the commenters and appreciates their expression of support for the proposal.

35. COMMENT: Section 5.5.1.b. of the NSPC should be amended to clarify when a backwater valve is required. Such situations include those where fixtures and/or drains are located above the crown level of the public sewer at the connection thereto, but are below the level of the nearest manhole cover where the building crosses at the property line.

RESPONSE: A provision to this effect is already in the Code.

36. COMMENT: Section 10.15.6 b. of the NSPC should be amended to read as follows: "Devices that are to be field tested shall be tested prior to issuing the Certificate of Occupancy (CO) or Temporary Certificate of Occupancy (TCO), and once each year thereafter, using field test procedures conforming to ASSE5010 Series Professional Qualifications Standards or equivalent." Having the construction official involved would increase enforcement and protect the safety and welfare of the public.

RESPONSE: As Section 10.15.6 b. of the NSPC was not included in the proposal, this proposed change is beyond the scope of the proposal.

### **General Comments**

37. COMMENT: The New Jersey Builders Association (NJBA) states that rule changes within the last three years, including the 2006 International Code adoption and the 2008 National Electrical Code adoption, have increased construction costs by \$ 10,000 to \$ 20,000 per unit, and asks whether the Department has considered the cumulative effect of its regulatory changes upon the cost of housing.

RESPONSE: The Department always takes into account the impact of proposed changes to the State Uniform Construction Code upon the cost of housing. It has not been presented with any documentation that would substantiate the assertion that Code changes within the past three years have had any such impact on construction costs.

38. COMMENT: The New Jersey Manufactured Housing Association (NJMHA) is concerned that additional regulations will increase the cost of non-subsidized affordable housing, of which HUD-regulated manufactured housing is a major part, at a time when the prospective residents of such housing can least afford it.

RESPONSE: Manufactured housing constructed in accordance with HUD standards is not subject to the International Residential Code, and the amendments to that code would therefore have no impact on such manufactured housing. The Department would also point out that the Balanced Housing program, which provides subsidies for the construction of affordable housing, already requires compliance with Energy Star and fire sprinkler requirements.

39. COMMENT: The New Jersey Association of Realtors (NJAR) is concerned about the cost increases that will be associated with purchasing new homes in New Jersey, particularly the costs associated with sprinkler systems. These cost-generating requirements, with the Department has estimated would range from \$ 800.00 to \$ 2,500 per unit, should not be imposed during this time of economic uncertainty. While it understands the importance of fire prevention and energy efficiency, the NJAR feels that purchasers should have the option of either having or not having fire sprinklers and more energy efficient homes. They should be offered incentives or rebates to include these features in the design and construction of their new homes.

RESPONSE: The Department understands that construction requirements intended to protect health and safety may have some marginal impact on costs. The Department only adopts such requirements where there is clear evidence that the cost is clearly justified by the greater protection to human health and safety that such requirements may reasonably be expected to provide. As has been previously indicated, the sprinkler requirement is not being adopted at this time.

A fire sprinkler system is intended to be there if and when needed to protect the lives and property of the buyer and his or her family, as well as firefighters and owners and occupants of neighboring properties. Energy conservation improvements are intended both to reduce ongoing costs to the homeowner and to have economic and environmental benefits for society as a whole. They are therefore of concern.

The Department would also point out that the Balanced Housing program in the Division of Housing and Community Resources, which provides subsidies for the construction of affordable housing, already requires compliance with Energy Star and fire sprinkler requirements. The Division of Codes and Standards does not have any program to provide subsidies to homebuyers for sprinkler systems or energy conservation features, or any statutory authority to provide such funding.

40. COMMENT: The Department should revise the Chapter 44 reference standard to the 2010 Edition, rather than the 2007 Edition, of NFPA-72, which is the standard referenced in the 2009 edition of the IRC. At the 2009 NFPA Technical Meeting, an important change was approved by the membership and subsequently incorporated into the 2010 Edition of NFPA-72 whereby the testing interval for household fire alarm systems was changed from every three years to annually. This change compliments the proposed adoption of 2009 IRC R314.2. Improving the testing requirement will reduce the incidence of false alarms, thus reducing the burden to government and the fire service and improving life safety.

RESPONSE: The Department has the authority to adopt national model codes and to retain provisions of previously adopted codes. NFPA-2010 is not referenced in the 2009 national model codes and is not part of a previously adopted code or standards. Therefore, the Department cannot consider its adoption.

### **Live/Work Units**

41. COMMENT: A commenter is concerned that, if a building's principal use is residential, then by definition more than 50 percent of the building is used for residential purposes, but that, if a live/work use were permitted in a multi family residential building, there could be an issue with principal use requirements. He asks whether, if more than 50 percent of the units became live/work units, the principal use of the building would not change from residential to commercial, and points out that any such change would have implications for zoning issues, such as parking requirements, as well as issues of occupancy load, ingress and egress, hallway width, stairwell size, elevators size, and loading space. He recommends that this concern be addressed by limiting the amount of live work space in a building, though he has doubts as to whether the idea is a good one, saying that, if he lived in a high-rise luxury condo building, he would not want his neighbor to be welding metal sculpture with acetylene torches or having visitors and suppliers coming at all hours of the day or night.

RESPONSE: The purpose of the amendment is to provide appropriate standards for the construction of live/work units. The code requirements for live/work units limit the area used for work space to more than 10 percent and not more than 50 percent of the dwelling unit. Therefore, more than 50 percent of a dwelling unit or, by extension, more than 50 [page=2054] percent of a building could not be used for work space. The Code issues raised by the commenter are addressed in the live/work unit requirements of the IBC/2009.

The questions of whether and where live/work units should be allowed, and what limitations should be imposed upon their use, are zoning issues, which are prior approvals that are beyond the scope of the State Uniform Construction Code.

### **Summary of Agency-Initiated Changes:**

At N.J.A.C. 5:23-3.14(b)2xv, terms and definitions that reference Chapter 11 of the International Building Code, which is deleted by this adoption, are being deleted.

At N.J.A.C. 5:23-3.14(b)5ix, 3.14(b)18v and 3.14(b)22vi, the code sections are being updated.

At N.J.A.C. 5:23-3.14(b)6vii and 3.14(b)10i, there are editorial amendments.

At N.J.A.C. 5:23-3.14(b)9ix, the reference is changed for the "IBC 2006" to the "IBC 2009."

At N.J.A.C. 5:23-3.14(b)10xi, Exception 8 in Section 1008.1 of the IBC/2009 is being deleted. This exception addresses Type B Dwelling Units and these types of units are deleted.

At N.J.A.C. 5:23-3.14(b)17xviii, the amended code section has been removed from the model code; therefore, the amendment is no longer required and is being deleted.

At N.J.A.C. 5:23-3.14(b)18i, the metric equivalent is being corrected.

At N.J.A.C. 5:23-3.21(c)3xix, the code section is being updated.

At N.J.A.C. 5:23-3.21(c)3xxxv, the current text of Section R324.3.1 is being retained and inserted into Section R322.3.1 of the 2009 IRC, thus retaining status quo. As proposed, Section R322.3.1 includes a reference to buildings subject to R105.3.1.1, which covers "substantially improved" buildings. Section R105.3.1.1 is not adopted in New Jersey and, therefore, the reference is superfluous. To ensure that code users do not become confused by a reference that is not adopted, the current code text, "New buildings shall be located landward of the reach of the mean high tide," is adopted at R322.3.1.

At N.J.A.C. 5:23-3.21(c)4viii, there is an editorial amendment; in addition, a code section is being updated.

### **Federal Standards Statement**

No Federal standards analysis is required for the amendments to adopt the IBC/2009, IRC/2009, NSPC/2009, IMC/2009 and IFGC/2009, or the amendments to the Elevator Safety Subcode, because the amendments are not being adopted in order to implement, comply with, or participate in any program established under Federal law or under a State law that incorporates or refers to Federal law, standards, or requirements.

Regarding the adoption of the most recent model energy codes, the Federal Energy Policy Act (EPACT) does not establish requirements for residential energy codes. EPACT simply requires states to analyze their current energy codes to determine whether updates are warranted. Although EPACT does not establish Federal requirements for residential energy codes, the adopted amendments would incorporate energy saving requirements that will result in more thermally efficient homes. Furthermore, the adoption of IECC/2009 as the minimum energy code for residential construction and of ASHRAE Standard 90.1-2007 for nonresidential construction is required under the American Recovery and Reinvestment Act to qualify for full stimulus funding.

**Full text** of the adoption follows (additions to proposal indicated in boldface with asterisks **\*thus\***; deletions from proposal indicated in brackets with asterisks \*[thus]\*):

#### 5:23-2.20 Tests and special inspections

(a) (No change.)

(b) All special inspections, as provided in the building subcode, shall apply to Class I buildings and any building that contains a smoke control system. A special inspector shall be independent of the contractor and shall be responsible to the building owner or building owner's agent. Special inspectors shall be certified in the appropriate specialty.

1. (No change.)

(c)-(e) (No change.)

#### 5:23-3.6 Standards; accepted practice

(a) (No change.)

(b) When this chapter and the subcodes, national standards and appendices it adopts by reference are silent, a manufacturer's recommendations for the installation of any material or assembly may be considered to be accepted engineering practice; provided, however, that a manufacturer's recommendations shall not be read to overrule this chapter or any subcode, national standard or appendix which it adopts by reference.

1. Exception: Where enforcement of a code provision would violate the condition(s) of the listing of the equipment or appliance, the more restrictive condition(s) shall apply.

#### 5:23-3.14 Building subcode

(a) Rules concerning the building subcode are as follows:

1. Pursuant to authority of P.L. 1975, c. 217, as modified by P.L. 1996, c. 53, the Commissioner hereby adopts the model code of the International Code Council, 2009 International Building Code, known as the "IBC/2009." This code is hereby adopted by reference as the building subcode for New Jersey subject to the modifications stated in (b) below.

i. (No change.)

ii. The IBC/2009, as amended, may be known and cited as the "building subcode."

2. Any references to the International Plumbing Code, the International Existing Building Code, International Residential Code, or the ICC/ANSI A117.1 standard (including reference to Chapter 11) listed in Chapter 35 shall be considered a reference to the appropriate plumbing subcode, and the one- and two-family dwelling subcode referenced in N.J.A.C. 5:23-3, the rehabilitation subcode, N.J.A.C. 5:23-6, or to the barrier free subcode, N.J.A.C. 5:23-7, as appropriate.

(b) The following chapters of the building subcode are modified as follows:

1. Chapter 1, Scope and Administration, shall be deleted in its entirety. In addition, any referenced section of Chapter 1 shall be deleted throughout the code and "the administrative provisions of the Uniform Construction Code (N.J.A.C. 5:23)" shall be inserted.

2. Chapter 2, Definitions, shall be amended as follows:

i.-xii. (No change.)

xiii. The definition of "Registered Design Professional in Responsible Charge" shall be deleted.

xiv. (No change in text.)

**\*xv. The following terms and definitions referencing Chapter 11 shall be deleted: Accessible; Accessible Route; Accessible Unit; Circulation path; Common use; Detectable warning; Dwelling Unit or Sleeping Unit, Multi-story; Dwelling Unit or Sleeping Unit, Type A; Dwelling Unit or Sleeping Unit, Type B; Employee Work Area; Facility; Intended to be occupied as a residence; Multistory Unit; Multilevel Assembly Seating; Public Entrance; Public-Use area; Self-service storage facility; Service entrance; site; Type A unit; Type B unit; and Wheelchair space.\***

3. Chapter 3, Use and Occupancy Classification, shall be amended as follows:

i. In Exception 4 of Section 303.1, entitled "Assembly Group A", delete the following text: "Chapter 11" and insert "the Barrier Free Subcode, N.J.A.C. 5:23-7" in its place.

ii. (No change in text.)

iii. In Table 307.1(2), Maximum Allowable Quantity Per Control Area of Hazardous Materials Posing a Health Hazard<a,b,c,j>, the following shall be inserted as the fourth row of the table under "Material," "Storage<d>," "Use-Closed Systems<d>," and "Use-Open Systems<d>:"

Radioactive<j>	25 REM unsealed source 100 REM sealed source	100 REM sealed source	25 REM sealed source
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j. Maximum dosage allowed in any single whole-body short-term (1 hour or less) exposure.

iv. In Section 307.2, Definitions, the following definition shall be inserted: "RADIOACTIVE MATERIAL. Any material or combination of materials that spontaneously emit ionizing radiation."

[page=2055] v. In Section 307.6, High-hazard Group H-4, "Radioactive material" shall be inserted in the list of materials.

vi. Section 308.2, Group I-1, shall be amended as follows: In the first sentence, "16" shall be deleted and "5" shall be inserted. In the second sentence, "responding to" shall be deleted and "slow evacuation in" shall be inserted. In addition, "For the purposes of applying this provision, slow evacuation shall mean the movement of all occupants, residents, and staff to an exit in more than three minutes, but not more than thirteen minutes." shall be inserted as the third sentence. In the list of types of occupancies, "residential board and care facilities, assisted living facilities" shall be deleted and "boarding houses" shall be inserted. In the same list, "abuse" shall be inserted after "drug." Also, in the last paragraph, "in accordance with Section 101.2" and "A facility such as above, housing at least six and not more than 16 persons shall be classified as a Group R-4" shall be deleted and the following definition of "boarding house" shall be inserted:

"Boarding House: A building arranged or used for single occupancy where meals or personal or financial services are provided to the residents."

vii. In Section 308.3, Group I-2, "who are not capable of self-preservation" shall be deleted and "where evacuation is impractical. For the purposes of applying this provision, impractical evacuation shall mean the movement of all occupants, residents, and staff to an exit in more than 13 minutes" shall be inserted. In the list of types of occupancies, "assisted living facilities" shall be inserted.

viii. In Section 308.5, Group I-4, in the second sentence, "with" shall be deleted and "accessory to a dwelling unit and having" shall be inserted and "in accordance with Section 101.2" shall be deleted.

ix. (No change in text.)

x. In Section 308.5.2, Child Care Facility, "more than five" shall be deleted. In the same section, the exception shall be deleted and replaced with the following:

"Exception: Child day care facilities, accessory to a dwelling unit, serving five or fewer persons of any age for less than 24 hours shall be considered Group R-3 or R-5, as applicable."

xi. Section 310, Residential Group R, shall be deleted and the following shall be inserted:

"310.1 Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I. Residential occupancies shall include the following:

(1) R-1 Residential occupancies containing sleeping units where the occupants are primarily transient (less than 30 days) including:

Hotels (including motels) having transient occupancy

Rooming houses, with more than five residents, having transient occupancy

Vacation timeshare properties

(2) R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

Apartment houses

Convents

Dormitories

Fraternity and sorority houses

Hotels (non transient)

Monasteries

Motels (non transient)

Rooming houses with more than five residents, not having transient occupancy

Therapeutic residences with more than 16 residents

(3) R-3 Detached one- and two-family dwellings greater than three stories in height, multiple single-family townhouses greater than three stories in height, attached two-family dwellings separated from adjacent units by firewalls, and other one- and two-family dwellings that are outside the scope of the one- and two-family dwelling subcode. Group R-3 includes:

Single residential occupancies, accessory to a dwelling unit, having no more than five roomers or lodgers. (Single occupancies, accessory to a dwelling unit, having more than five roomers or lodgers shall be classified as Group R-2 or I-1, as appropriate.)

Adult and child day care facilities, accessory to a dwelling unit, serving five or fewer persons of any age for less than 24 hours.

Group Homes with 5 or fewer occupants, all of whom are capable of prompt self-evacuation. For the purpose of applying this requirement, prompt self-evacuation shall mean the movement to an exit in three minutes or less.

Rooming houses with five or fewer residents.

Therapeutic residences with five or fewer residents.

(4) R-4 Therapeutic residences including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3 except as otherwise provided in the code.

(5) R-5 Detached one- and two-family dwellings not more than three stories in height **\*with a separate means of egress\*** and multiple single-family townhouses not more than three stories in height **\*with a separate means of egress\*** designed and constructed in accordance with the one- and two-family dwelling subcode. Group R-5 also includes:

Single residential occupancies, accessory to a dwelling unit, having no more than five roomers or lodgers. (Single occupancies, accessory to a dwelling unit, having more than five roomers or lodgers shall be classified as Group R-2 or I-1, as appropriate.)

Adult and child day care facilities, accessory to a dwelling unit, serving five or fewer persons of any age for less than 24 hours.

Group Homes with 5 or fewer occupants, all of whom are capable of prompt self-evacuation. For the purpose of applying this requirement, prompt self-evacuation shall mean the movement to an exit in three minutes or less.

Rooming houses with five or fewer residents.

Therapeutic residences with five or fewer residents."

4. (No change.)

5. Chapter 4, Special Detailed Requirements Based on Use and Occupancy, shall be amended as follows:

i. (No change.)

ii. In Section 403.4.7, Standby power, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

iii. In Section 403.4.8, Emergency power systems, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

iv. In Section 405.8, Standby power, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

v. In Section 405.9, Emergency power, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

vi.-vii. (No change.)

viii. In Section 412.3.5, Standby power, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

ix. In Section \*[412.1.6]\* **\*412.3.6\***, Accessibility, "Chapter 11" shall be deleted and "the barrier free subcode (N.J.A.C. 5:23-7)" shall be inserted.

x. In Section 414.1.3, Information required, "building official" shall be deleted in the first and third sentences and "fire protection subcode official" shall be inserted.

xi. In Section 414.5.4, Standby or electrical power, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

xii. (No change in text.)

xiii. In Section 419.7, Accessibility, "Chapter 11" shall be deleted and "the barrier free subcode (N.J.A.C. 5:23-7)" shall be inserted.

xiv. In Section 421.8, Standby power, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

xv. Section 423, Storm Shelters, shall be deleted in its entirety.

6. Chapter 5, General Building Heights and Areas, shall be amended as follows:

i. Section 501.2, Address identification, shall be deleted in its entirety.

ii. Table 503, Allowable Heights and Building Areas, shall be amended as follows:



(1)-(5) (No change in text.)

(6) Under construction Type IB for Group B, "11" shall be deleted and "7" shall be inserted. In addition, under construction Type IIIA for Group B, "5" shall be deleted and "4" shall be inserted.

(7)-(12) (No change in text.)

[page=2056] (13) Under Group, add superscript "<e>" to Group I-4. In addition, the following note shall be added to the table: "e. Child care facilities of Types IIB, III, IV or V construction shall be limited to 20 feet and 1 story."

(14) Under construction Type IB for Group M, "11" shall be deleted and "6" shall be inserted. In addition, under construction Type IIIA, "4" shall be deleted and "3" shall be inserted. Finally, under construction Type VA, "3" shall be deleted and "2" shall be inserted.

Recodify existing (14) through (17) as (15)-(18) (No change in text.)

(19) Under construction Type IB for Group S-1, "11" shall be deleted and "5" shall be inserted. In addition, under construction Type VA for Group S-1, "3" shall be deleted and "2" shall be inserted.

(20) Under construction Type IB for Group S-2, "11" shall be deleted and "7" shall be inserted. In addition, under construction Type VA for Group S-2, "4" shall be deleted and "3" shall be inserted.

(21) (No change in text.)

iii. In Section 504.2, Automatic sprinkler system increase, delete Exception #1 in its entirety and insert in its place:

1. Buildings, or portions of buildings, of Type IIB, III, IV or V construction classified as a Group I-2 occupancy or Group I-4 child care facility.

Recodify existing ii.-iv. as iv.-vi. (No change in text.)

vii. Section 507.4, Two-Story, shall be amended as follows: In the first *[sentence]* **\*line\***, *[building]* of Type I or Type II construction *[under]* **\*that is\*** shall be inserted after *[two-story]* **\*building\***.

viii. In Table 508.4, Required Separation of Occupancies (Hours), "U<d>" shall be deleted in the fifth row and the fifth column of the table.

7. Chapter 6, Types of Construction, shall be amended as follows:

i. (No change.)

ii. In Section 602.3, Type III, "(See FTO 14)" shall be inserted after "noncombustible materials." In addition, the second sentence shall be deleted.

8. Chapter 7, Fire-Resistance-Rated Construction, shall be amended as follows:

i. In Section 703.3, Alternative Methods for determining fire resistance, Item #5 is amended to delete "Section 104.11" and insert "N.J.A.C. 5:23-3.7" in its place.

ii. In Section 705.5, Fire-resistance rating, "10 feet (3048 mm)" shall be deleted in the second and third sentence and "5 feet (1524mm)" shall be inserted.

iii. In Table 706.4, Fire Wall Fire Resistance Ratings, under the heading "Group," "U" shall be deleted.

iv. Section 706.5, Horizontal continuity, 706.5.1, Exterior walls, and Section 706.5.2, Horizontal projecting elements, shall be deleted in their entirety. Section 707.6 of the 1996 BOCA National Building Code shall be inserted as follows: "Horizontal Continuity. Firewalls shall be made smoke tight at the junction of exterior walls. In exterior wall construction employing studs, the wall shall extend through the stud space to the exterior sheathing."

v. In Table 707.3.9, Fire-Resistance Rating Requirements For Fire Barrier Assemblies or Horizontal Assemblies Between Fire Areas, the last row containing "U" and "1" shall be deleted.

vi. In Section 708.2, Shaft enclosure required, Exception 11 shall be deleted in its entirety.

vii. Section 708.14.1, Elevator lobby, shall be amended as follows: In the first sentence, "In buildings having occupied floors greater than 75 feet above the lowest level of fire department vehicle access" shall be inserted before "An." In the same section, Exceptions 4 and 6 shall be deleted in their entirety.

viii. Section 708.14.2, Enclosed elevator lobby pressurization alternative, shall be deleted in its entirety.

9. Chapter 9, Fire Protection Systems, shall be amended as follows:

i. In Section 901.3, Modifications, "remove or" shall be deleted. Additionally, "building official" shall be deleted and "fire protection subcode official" shall be inserted.

ii. In Section 901.5, Acceptance test, in the second sentence, "building official" shall be deleted and "fire protection subcode official" shall be inserted.

iii. In Section 901.6.3, Group H, in the exception, "building official" shall be deleted and "fire protection subcode official" shall be inserted.

Recodify existing i.-ii. as iv.-v. (No change in text.)

vi. Section 903.2.1.2., Group A-2, shall be amended to add a new section 903.2.1.2.1 as follows: "903.2.1.2.1 In Group A-2 Nightclubs, the automatic sprinkler system shall be tied to the performance sound system and to the house lights in such a way that activation of the automatic sprinkler system mutes the performance sound system and restores the intensity of illumination to that required by 1006.2"

vii. In Section 903.2.6, Group I, the exception shall be deleted and the following shall be inserted:

"Exceptions

1. An automatic fire sprinkler system installed in accordance with Section 903.3.1.2. shall be allowed in Group I-1 facilities.

2. For other than buildings of construction Types IIIB or VB, an automatic fire sprinkler system shall not be required for Group I-4 child care facilities that are located at the level of exit discharge and that accommodate 100 or fewer children and in which each child care room has an exit door directly to the exterior."

viii. In Section 903.2.11.1, Stories without openings, ", of all buildings where the floor area exceeds 1,500 square feet (139.4 m<sup>2</sup>) and" shall be deleted.

ix. New Section 903.2.13, Automatic sprinkler system thresholds, shall be inserted as follows: "An automatic sprinkler system shall be required in accordance with Section 903.3.1.1 when the maximum area is exceeded for the following construction types of Groups B, F-2, and S-2 according to table 903.2.13, Automatic Sprinkler System Thresholds. All others not listed shall follow the applicable requirements as set forth in the \*[IBC/2006]\* **\*IBC/2009\***."

Automatic Sprinkler System Thresholds

## 42 N.J.R. 2043(a)

## Group B

Story -----	IIB Max. Area -----	IIIB Max. Area -----	VB Max. Area -----
1	36,000	*	*
2	72,000 (36,000 per floor)	*	*
3	99,360 (36,000 per floor)	99,360 (36,000 per floor)	

## Group F-2

Story -----	IIB Max. Area -----	IIIB Max. Area -----	VB Max. Area -----
1	36,000	*	18,000
2	72,000 (36,000 per floor)	*	36,000 (18,000 per floor)
3	99,360 (36,000 per floor)		

## Group S-2&lt;a&gt;

Story -----	IIB Max. Area -----	IIIB Max. Area -----	VB Max. Area -----
1	36,000	36,000	18,000
2	72,000 (36,000 per floor)	72,000 (36,000 per floor)	36,000 (18,000 per floor)
3	99,360 (36,000 per floor)	99,360 (36,000 per floor)	*

[page=2057] a. Exception--Open parking structures in accordance with Section 406.3

\*Requirements as set forth in the IBC/2009"

Recodify existing vii.-viii. as x.-xi. (No change in text.)

xii. In Section 903.4.1, Monitoring, "fire code official" shall be deleted and "fire protection subcode official" shall be inserted.

Recodify existing x.-xiii. as xiii.-xvi. (No change in text.)

xvii. Section 905.3.2 shall be renumbered as 905.3.3 with no change in text.

xviii. Section 905.3.3, Covered mall buildings, shall be renumbered as 905.3.4. Additionally, "or 905.3.2" shall be added after "905.3.1" in the first and second sentence.

xix. Sections 905.3.4 through 905.3.7 shall be renumbered as 905.3.5 through 905.3.8 with no change in text.

Recodify existing xv.-xvii. as xx.-xxii. (No change in text.)

xxiii. Section 905.6.2, Interconnection, shall be deleted.

xxiv. In Section 906.1, Where required, Item #1 and in the exception, "and existing" shall be deleted.

xxv. In Section 907.1.1, Construction Documents, "and" shall be inserted before "the International Fire Code" and "and relevant laws ordinances, rules and regulations, as determined by the fire code official" shall be deleted.

xxvi. In Section 907.2, Where required-new buildings and structures, Exception #2 shall have "fire code official" deleted and "fire protection subcode official" shall be inserted.

xxvii. Add new section 907.2.1.2 as follows: "907.2.1.2 Group A-2 Nightclubs. An automatic fire detection system shall be installed throughout all Group A-2 nightclubs with an occupant load of 100 or more. If the alarm is activated by smoke detectors, it shall be activated by either two cross-zoned smoke detectors within a single protected area or a single smoke detector monitored by an alarm verification zone or an approved equivalent method and the smoke detectors shall be of a type designed to reduce the possibility of false notifications based on the conditions present in the area protected. The automatic fire detection system shall be tied to the performance sound system and to the house lights in such a way that activation of the fire detection system mutes the performance sound system and restores the intensity of illumination to that required by 1006.2.

Exception: Automatic fire detection systems are not required in buildings provided with an automatic sprinkler system throughout."

xxviii. In Section 907.2.3, Group E, Exception #2.1, "with alarm verification" shall be inserted at the end of the exception and in Exception #2.5 "fire code official" shall be deleted and "fire protection subcode official" shall be inserted.

Recodify existing xix.-xx. as xxix.-xxx. (No change in text.)

xxxi. In Section 907.4.2.5, Protective covers, "fire code official" shall be deleted and "fire protection subcode official" shall be inserted.

xxxii. In Section 907.5.1, Presignal feature, "fire code official" shall be deleted and "fire protection subcode official" shall be inserted.

xxxiii. Section 907.5.2.3.2, Employee work area, is deleted in its entirety.

Recodify existing xxv.-xxix. as xxxiv.-xxxviii. (No change in text.)

xxxix. In Section 909.11, Power systems, "Chapter 27 of this code" shall be deleted and "the electrical subcode, N.J.A.C. 5:23-3.16" shall be inserted.

Recodify existing xxx.-xxxi. as xl.-xli. (No change in text.)

xlii. (No change in text.)

xliii. In Section 909.19, System acceptance, in the exception, "fire code official" shall be deleted and "fire protection subcode official" shall be inserted.

xliv. In Section 909.20.6.2, Standby power, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

xlv. In Section 909.20.6.3, Acceptance and testing, "building official" shall be deleted and "fire protection subcode official" shall be inserted.

Recodify existing xxxvi.-xli. as xlvi.-li. (No change in text.)

lii. New Section 912.6, Projection, shall be inserted as follows: "912.6 Projection. Where the fire department connection will otherwise project beyond the property line or into the public way, a flush-type fire department connection shall be provided."

liii. Section 913.4.1, Test outlet valve supervision, shall be deleted.

10. Chapter 10, Means of Egress, shall be amended as follows:

i. The terms "Type A unit," "Type B unit," and "Accessible Unit" shall be deleted and "**\*an\*** Adaptable or Accessible Unit" shall be inserted in the following sections: Section 1008.1.1, Exception 7; Section 1008.1.5, Exceptions 3 and 5; Section 1008.1.7, Exception; Section 1008.1.8, Exception 3; Section 1010.6.3, Exception 1; and Section 1010.6.4, Exception.

ii.-vii. (No change.)

viii. In Section 1007.3, Stairways, Exception 3 shall be deleted.

ix. In Section 1007.4, Elevators, Exception 2 shall be deleted.

x. In Section 1007.5, Platform lifts, in the first sentence, "Section 1109.7, Items 1 through 9" shall be deleted and "the barrier free subcode (N.J.A.C. 5:23-7)" shall be inserted. In the second sentence, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

**\*xi. In Section 1008.1, Size of Doors, Exception 8 shall be deleted.\***

\*[xi.]\* **\*xii.\*** In Section 1008.1.4.5, Security grilles, "In Groups B, F, M, and S" shall be deleted and "horizontal" shall be capitalized.

\*[xii.]\* **\*xiii.\*** In Section 1008.1.5, Floor elevation, in Exception 3, "7.75 inches (197 mm)" shall be deleted and "8.25 inches (210 mm)" shall be inserted.

\*[xiii.]\* **\*xiv.\*** In Section 1008.1.7, Thresholds, in the exception, "7.75 inches (197 mm)" shall be deleted and "8.25 inches (210 mm)" shall be inserted. In the same exception, "Chapter 11" shall be deleted and "the barrier free subcode (N.J.A.C. 5:23-7)" shall be inserted.

\*[xiv.]\* **\*xv.\*** In Section 1008.1.9.1, Hardware, "locks" shall be deleted. In the same section, "Chapter 11" shall be deleted and "the barrier free subcode (N.J.A.C. 5:23-7)" shall be inserted.

\*[xv.]\* **\*xvi.\*** Section 1008.1.9.3, Locks and latches, shall be amended as follows: In Item 2, "Group A having an occupant load of 300 or less" shall be deleted. In the same item, "and in places of religious worship" shall be deleted. In the same section, Item 6 shall be inserted as follows: "6. Key operation shall be permitted from a dwelling unit provided that the key cannot be removed from the lock when the door is locked from the side from which egress is made."

\*[xvi.]\* **\*xvii.\*** In Section 1008.1.9.7, Delayed egress locks, "E" shall be deleted.

\*[xvii.]\* **\*xviii.\*** Section 1008.1.9.8, Electromagnetically locked egress doors, shall be deleted.

\*[xviii.]\* **\*xix.\*** In Section 1008.1.10, Panic and fire exit hardware, the exception shall be deleted in its entirety.

\*[xix.]\* **\*xx.\*** In Section 1009.4.2, Stair tread and risers, Exception 5, change the maximum riser height from "7.75 inches (197 mm)" to "8.25 inches (210 mm)", change the minimum tread depth from "10 inches (254 mm)" to "9 inches (229 mm)" and change the minimum winder tread depth at the walk line from "10 inches (254 mm)" to "9 inches (229 mm)." In the same section, Exception 6 shall be deleted.

\*[xx.]\* **\*xxi.\*** In Section 1009.11, Ship ladders, ", in buildings of Group F, H and S from mezzanines not more than 250 square feet (23 m<2>) in area and which serves not more than 5 occupants" shall be inserted after "occupants" in the first sentence.

\*[xxi.]\* **\*xxii.\*** In Section 1011.4, Internally illuminated exit signs, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

\*[xxii.]\* **\*xxiii.\*** In Section 1011.5.3, Power source, in the last sentence, "Chapter 27" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

\*[xxiii.]\* **\*xxiv.\*** (No change in text.)

\*[xxiv.]\* **\*xxv.\*** In Section 1012.4, Continuity, Exception 4 shall be deleted.

\*[xxv.]\* **\*xxvi.\*** In Section 1013.2, Height, insert new Exception 1 as follows: "For occupancies in Group R-3 and within individual dwelling units in occupancies of Group R-2, porches, balconies or raised floor surfaces located more than 30 inches (762 mm) above the floor or grade below shall have guards not less than 36 inches (914 mm) in height." In the same section, Exceptions 1 through 4 shall be renumbered as 2 through 5. Additionally, in Exception 3, "34 inches (864mm)" shall be deleted and "30 inches (762 mm) shall be inserted.

[page=2058]\*[xxvi.]\* **\*xxvii.\*** Section 1014.2.5, Exit access through suites, shall be deleted.

\*[xxvii.]\* **\*xxviii.\*** In Section 1015.1, Exits or exit access doorways from spaces, in the exception to Item 1, the first sentence in the exception shall be numbered "1." and "and R-3" shall be deleted. In the same sentence, "20" shall be deleted and "10" shall be inserted. In addition, a new exception shall be inserted as follows: "2. In buildings of Group R-3 occupancy".

\*[xxviii.]\* **\*xxix.\*** In Section 1016.1, Travel distance limitations, Exceptions 3 and 4 shall be deleted. In the same section, in the last paragraph "Where applicable" shall be deleted and "When permitted by Section 1022.1" shall be inserted.

\*[xxix.]\* **\*xxx.\*** In Section 1017.2, Aisles in Groups B and M, in the exception, "Chapter 11" shall be deleted and "the barrier free subcode (N.J.A.C. 5:23-7)" shall be inserted.

\*[xxx.]\* **\*xxxi.\*** In Table 1018.1, Corridor Fire Resistance Rating, under the heading "Occupancy," "U" shall be deleted from the third row. In addition, "Not Permitted" shall be deleted from the fifth row and "1" shall be inserted.

\*[xxxi.]\* **\*xxxii.\*** In Section 1021.1, Exits from stories, delete Exception 3 and renumber Exceptions 4 and 5 as 3 and 4. In new Exception 3, delete "and R-3". In the same exception, "20" shall be deleted and "10" shall be inserted. Insert new Exception 5 as follows: "5. In buildings of Group R-3 occupancy".

\*[xxxii.]\* **\*xxxiii.\*** In Table 1021.2, Stories with One Exit, under the heading "Occupancy," "U" shall be deleted from the first row.

\*[xxxiii.]\* **\*xxxiv.\*** In Section 1022.1, Enclosures required, in Exception 1 after "occupant load of less than 10" insert "or serves four or fewer dwelling units".

\*[xxxiv.]\* **\*xxxv.\*** In Section 1028.1.1, Bleachers, after "ICC 300", insert "Chapters 2, 3 and 4".

\*[xxxv.]\* **\*xxxvi.\*** At Section 1028.2, entitled "Assembly main exit", add the text "other than nightclubs," after "Group A occupancies" at the beginning of the first sentence.

(1) In the exception, after "In assembly occupancies" insert "other than nightclubs".

\*[xxxvi.]\* **\*xxxvii.\*** Add new section 1028.2.1 as follows:

"1028.2.1 Group A-2 Nightclubs. Buildings or portions thereof of Group A-2 nightclubs with an occupant load of 100 or more shall have a main entrance capable of serving as the main exit with an egress capacity for at least one-half the total occupant load. The remaining exits shall be capable of providing two-thirds of the total required exit capacity. Buildings or portions thereof of Group A-2 nightclubs with an occupant load of more than 300 shall have a main entrance capable of serving as the main exit with an egress capacity for at least two-thirds of the total occupant load. The remaining exits shall also be capable of providing two-thirds of the total required exit capacity."

\*[xxxvii.]\* **\*xxxviii.\*** Section 1029.1, General, shall be amended as follows: In the second sentence, "Basements and" shall be deleted and "sleeping" shall be capitalized. In the same section, Exception 4 shall be deleted its entirety. In Exception 6, "basements or" shall be deleted. In addition, Exception 7 shall be deleted in its entirety.

11.-13. (No change.)

14. Chapter 14, Exterior Walls, shall be amended as follows:

i. In Section 1405.11.4, Grounding, "Chapter 27 of this code and the ICC Electrical Code" shall be deleted and "the electrical subcode, N.J.A.C. 5:23-3.16" shall be inserted.

15. Chapter 15, Roof Assemblies and Rooftop Structures, shall be amended as follows:

i. In Section 1503.4, Roof drainage, ""International Plumbing Code" shall be deleted and "plumbing subcode, N.J.A.C. 5:23-3.15" shall be inserted.

ii. In Table 1505.1, Minimum Roof Covering Classification for Types of Construction, Note a shall be deleted in its entirety. In addition, at Note b, "and U" shall be deleted from the first sentence.

iii. In Section 1507.2.8.2, Ice barrier, "In areas where there has been a history of ice forming along the eaves causing a backup of water," shall be deleted and "In areas where the average daily temperature in January is 25 degrees F (-4 degrees C) or less," shall be inserted.

iv. In Section 1507.5.4, Ice barrier, "In areas where there has been a history of ice forming along the eaves causing a backup of water," shall be deleted and "In areas where the average daily temperature in January is 25 degrees F (-4 degrees C) or less," shall be inserted.

v. In Section 1507.6.4, Ice barrier, "In areas where there has been a history of ice forming along the eaves causing a backup of water," shall be deleted and "In areas where the average daily temperature in January is 25 degrees F (-4 degrees C) or less," shall be inserted.

vi. In Section 1507.7.4, Ice barrier, "or where there has is a possibility of ice forming along the eaves causing a backup of water," shall be deleted.

vii. In Section 1507.8.4, Ice barrier, "In areas where there has been a history of ice forming along the eaves causing a backup of water," shall be deleted and "In areas where the average daily temperature in January is 25 degrees F (-4 degrees C) or less," shall be inserted.

viii. In Section 1507.9.4, Ice barrier, "In areas where there has been a history of ice forming along the eaves causing a backup of water," shall be deleted and "In areas where the average daily temperature in January is 25 degrees F (-4 degrees C) or less," shall be inserted.

16. Chapter 16, Structural Design, shall be amended as follows:

i. New Section 1603.2, Restrictions on loading, from Section 1603.2 of the 2006 International Building Code, shall be inserted as follows: "It shall be unlawful to place, or cause to permit to be placed, on any floor or roof of a building, structure or portion thereof, a load greater than is permitted by these requirements."

Recodify existing iv. and v. as ii. and iii. (No change in text.)

iv. In Section 1607.9.1.4, Group A occupancies, "and Group E" shall be added to the title of the section and after "Group A" insert "and Group E".

v. (No change in text.)

vi. In Section 1611.1, Design rain load, the second sentence shall be deleted and "The design rainfall rates shall be based on the plumbing subcode, N.J.A.C. 5:23-3.15." shall be inserted.

vii. In Section 1611, Rain loads, Figure 1611.1, "100-year, 1-hour rainfall (inches)" shall be deleted.

viii.-ix. (No change.)

17. Chapter 17, Structural Tests and Special Inspections, shall be amended as follows:

i. In Section 1701.1, Scope, "shall apply to Class I buildings and smoke control systems in all buildings and" shall be inserted after "chapter."

ii.-iv. (No change.)

v. In Section 1703.6, Evaluation and follow-up inspection, "in accordance with N.J.A.C. 5:23-4.26" shall be inserted after the second "assembly."

vi. Section 1704.1, General, shall be amended as follows: In the first sentence of the first paragraph, "the registered design professional" shall be deleted and "person" shall be inserted. Also, in the first sentence of the first paragraph, "of Class 1 buildings only or any building containing a smoke control system" shall be inserted after "construction." In the second sentence of the second paragraph, "the registered design professional" shall be deleted and "person" shall be inserted.

vii. Section 1704.1.2, Report requirement, shall be amended as follows: In the second sentence, "building official" shall be deleted and "construction official" shall be inserted and "registered design professional" shall be deleted and "person" shall be inserted. In the same sentence, "in accordance with N.J.A.C 5:23-2.21(c)" shall be inserted after "charge." In the fifth sentence, "building official" shall be deleted and "construction official" shall be inserted and "registered design professional" shall be deleted and "person" shall be inserted. In the last sentence, "building official" shall be deleted and "construction official" shall be inserted.

viii.-ix. (No change.)

x. In Section 1704.5, Masonry construction, "in Seismic Design Category D" shall be inserted after the word "construction" within the text. In the same section, in Exception 2, the reference to "Table 1807.1.6.3(1)" shall be deleted.

xi. (No change.)



xii. In Section 1705.3, Seismic resistance, "for Seismic Design Category D buildings" shall be inserted after "inspections."

[page=2059] xiii. (No change in text.)

xiv. Section 1706, Special inspection for wind requirements, shall be deleted.

xv. (No change in text.)

xvi. In Section 1707.7, Mechanical and Electrical Components, in items 1, 3, 4 and 5, "C," shall be deleted in reference to seismic design categories.

xvii. Section 1708.3, Structural steel, shall be deleted.

\*[xviii. In Section 1708.2 Testing for Seismic Resistance, in items 1 and 3, "C," shall be deleted in reference to seismic design categories.]\*

\*[xix.]\* **\*xviii.\*** In Section 1709.1, Contractor responsibility, in the first sentence, "main - wind- or" shall be deleted. In addition, in the same sentence, "or a wind-" shall be deleted.

\*[xx.]\* **\*xix.\*** Section 1710, Structural Observations, shall be deleted in its entirety.

18. Chapter 18, Soils and Foundations, shall be amended as follows:

i. Section 1803.3.1, Scope of investigation, shall be amended as follows: After the first sentence, the following sentence from Section 1802.1 of the 1996 BOCA National Building Code shall be inserted: "There shall be at least one exploratory boring to rock or to an adequate depth below the load-bearing strata for every 2,500 square feet  $[(232.5 \text{ mm})]$  **\*(232 m<2>)\*** of built-over area, and such additional tests as the code official requires."

ii. In the title of Section 1803.5.11, "C" shall be deleted and "D" shall be inserted. In the first sentence, the reference to "C" shall be deleted.

iii. New Section 1803.5.13 from Section 1802.1 of the 1996 BOCA National Building Code shall be inserted as follows: "Building Height: For all buildings that are more than three stories or 40 feet (12,192 mm) in height above the grade plane, the building official shall request soil tests."

iv. In Section 1805.4.3, Drainage discharge, "International Plumbing Code" shall be deleted and "plumbing subcode (N.J.A.C. 5:23-3.15)" shall be inserted.

v. New Section  $[(1807.5)]$  **\*1807.4\*** from Section 1813.8 of the 1996 BOCA National Building Code shall be inserted as follows:  $[(1807.5)]$  **\*1807.4\*** Erosion protection: Where water impacts the ground from the edge of the roof, downspout, scupper or other rain water collection or diversion device, provisions shall be made to prevent soil erosion and direct the water away from the foundation."

vi. Section 1809.4, Depth and width of footings, shall have the following exceptions added:

"Exceptions:

1. Garden-type utility sheds and similar structures that are 100 square feet or less in area, 10 feet or less in height and accessory to structures of Group R-2, R-3 or R-4 and does not contain a water, gas, oil or sewer connection. These structures shall be of sufficient weight to remain in place or shall be anchored to the ground.

2. Garden-type utility sheds and similar structures that are greater than 100 square feet, but not more than 200 square feet in area, 10 feet or less in height and accessory to structures of Group R-2, R-3 or R-4 provided the shed is dimensionally stable without the foundation system and does not contain a water, gas, oil or sewer connection. A shed shall be

considered dimensionally stable if it is provided with a floor system that is tied to the walls of the structure such that it reacts to loads as a unit. These structures shall be of sufficient weight to remain in place or shall be anchored to the ground."

vii. New Section 1810.3.1.7 from Section 1816.9 of the 1996 BOCA National Building Code shall be inserted as follows: "Spacing: The minimum center-to-center spacing of piles shall not be less than twice the average diameter of a round pile, nor less than 1 3/4 times the diagonal dimension of a rectangular pile. Where driven to or penetrating into rock, the spacing shall not be less than 24 inches (610 mm). Where receiving principal support at the end from materials other than rock, or through friction resistance, the spacing shall not be less than 30 inches (762 mm) except that for piles having enlarged bases formed either by compacting concrete or driving a pre-cast base, the minimum center-to-center spacing shall be 4 1/2 feet (1,372 mm). The spacing of piles shall be such that the average load on the supporting strata will not exceed the safe load-bearing value of those strata as determined by test borings or other approved methods."

viii. In Section 1810.3.3.1.3, Load test evaluation methods, Item 4 shall be deleted.

ix. In Section 1810.3.13, Seismic ties, in the exception, "and U" and "subject to approval of the building official" shall be deleted.

19. Chapter 23, Wood, shall be amended as follows:

i. In Section 2303.4.1.4.1, Truss design drawings, "Where required by the registered design professional, the building official, or the statutes of the jurisdiction in which the project is to be constructed," shall be deleted.

ii. In Section 2303.4.2, Truss placement diagram, in the last sentence, "that serve only as a guide for installation and do not deviate from the permit submittal drawings" shall be deleted.

iii. New Section 2303.4.8, entitled "Truss Identification," shall be inserted as follows: "Each truss shall be labeled or otherwise indelibly marked at the factory with the individual truss number as assigned in the truss layout plan. The indelible marking or label shall be located on the bottom chord of the truss, inside the bearing points. When indelible markings are used, each digit shall be not less than one inch high. When labels are used, the label shall be a minimum of five inches by three inches and shall be affixed to the truss by a truss plate. Labels shall remain affixed to the truss."

iv. In Table 2306.2.1(2), Allowable shear for wood structural panel blocked diaphragms utilizing multiple rows of fasteners (high load diaphragms) with framing of Douglas fir larch or southern pine for wind or seismic loading, Note g shall be deleted.

v. (No change.)

20. (No change.)

21. Chapter 30, Elevators and Conveyor Systems, shall be amended as follows:

i. (No change.)

ii. In Section 3001.2, Referenced standards, "ASME A17.1/CSA B44" shall be deleted and "ASME A17.1 with the exception of Sections 1.1.3 and 1.2, Sections 5.8 and 5.9, Sections 7.4 through 7.7 and Sections 7.9 through 7.11; ASME A17.1 Appendixes L, N, and P; ASME A18.1" shall be inserted after "shall conform to" in the fourth sentence.

iii. (No change.)

iv. In Section 3001.4, Change in use, "Section 8.7 of ASME A17.1/CSA B44" shall be deleted and "ASME A17.1" shall be inserted.

v. (No change in text.)

vi. In Section 3002.5, Emergency doors, "ASME A17.1/CSA B44" shall be deleted and "ASME A17.1" shall be inserted.

vii. In Section 3003.2, Fire-fighters' emergency operation, "ASME A17.1/CSA B44" shall be deleted and "ASME A17.1" shall be inserted.

Recodify existing v.-vii. as viii.-x. (No change in text.)

22. Chapter 31, Special Construction, shall be amended as follows:

i.-v. (No change.)

vi. Section 3110, Automatic Vehicular Gates, shall be renumbered as 3111 and new Section 3110.0, "Swimming pools and spas" shall be inserted as follows:

3110.0 Swimming pools and spas. Swimming pools and spas shall be constructed in accordance with section 3110.1 through \*[3110]\* **\*3110.6\***.

3110.1 Public swimming pools. Public swimming pools shall be designed and constructed in conformance with ANSI/APSP-1 as listed in Chapter 35.

3110.2 Public spas. Public spas shall be designed and constructed in conformance with ANSI/APSP-2 as listed in Chapter 35.

3110.3 Permanently installed residential spas. Permanently installed residential spas shall be designed and constructed in conformance with ANSI/APSP-3 as listed in Chapter 35.

3110.4 Above-ground and on-ground residential swimming pools. Above-ground and on-ground residential swimming pools shall be designed and constructed in conformance with ANSI/APSP-4 as listed in Chapter 35.

3110.5 Residential in-ground swimming pools. Residential in-ground swimming pools shall be designed and constructed in conformance with ANSI/APSP-5 as listed in Chapter 35.

3110.6 Portable spas. Portable spas shall be designed and constructed in conformance with ANSI/APSP-6 as listed in Chapter 35.

[page=2060] 23. Chapter 32, Encroachments into the Public Rights of Way, shall be amended as follows:

i. (No change.)

ii. In Section 3202.3.4, Pedestrian walkways, "applicable governing authority" shall be deleted and "the construction official" shall be inserted.

iii. In Section 3202.4, Temporary encroachments, "applicable governing authority" shall be deleted and "municipality" shall be inserted.

24. (No change.)

25. Chapter 34, Existing Structures, shall be amended as follows:

i. Sections 3401, General; 3402, Definitions; 3403, Additions; 3404, Alteration; 3405, Repairs; 3406, Fire Escapes; 3407, Glass Replacement; 3408, Change of Occupancy; 3409, Historic Buildings; 3410, Moved Structures; and 3411, Accessibility for Existing Buildings, shall be deleted.

ii. Section 3412, Compliance Alternatives, shall be deleted with the exception of Section 3412.6, Evaluation Process, which shall be amended as follows:

(1) "in accordance with N.J.A.C. 5:23-6.2(c)4" shall be inserted at the end of the first sentence.

26. Chapter 35, Referenced Standards, shall be amended as follows:

i. Under the heading APSP, the following APSP Standards shall be inserted: "ANSI/APSP-1-03, Public Swimming Pools, ANSI/APSP-2-99, Public Spas, ANSI/APSP-3-99, Standard for Permanently Installed Residential Spas, ANSI/APSP-4-07, Standard for Above-Ground/On-Ground Residential Swimming Pools, ANSI/APSP-5-03, Standard for Residential In-ground Swimming Pools, and ANSI/APSP-6-99, Standard for Portable Spas."

ii. Under the subheading "ACI 318-08," "Section 1708.3" shall be deleted.

iii. Under the subheading "AISC 341-05," "Section 1708.3" shall be deleted.

iv. Under the subheading "AWS D1.1-04," "Section 1708.3" shall be deleted.

27. The Appendices shall be amended as follows:

i. (No change.)

ii. In Appendix H, at the beginning of the Appendix, the sentence, "The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance," shall be deleted in its entirety.

(1)-(2) (No change.)

iii. Appendix I, Patio Covers, Appendix J, Grading, and Appendix K, Administrative Provisions, shall be deleted in their entirety.

#### 5:23-3.15 Plumbing subcode

(a) Rules concerning subcode adopted are as follows:

1. Pursuant to authority of P.L. 1975, c. 217, as modified by P.L. 1996, c. 53, the Commissioner hereby adopts the Model Code of the Plumbing Heating-Cooling Contractors--National Association, known as "The National Standard Plumbing Code/2009," as the plumbing subcode for New Jersey.

i. Copies of this code may be obtained from the sponsor at: PHCC-NA, P.O. Box 6808, Falls Church, VA 22046.

2. "The National Standard Plumbing Code/2009," including appendices, may be known and cited as "the plumbing subcode."

(b) The following pages, chapters, sections or appendices of the plumbing subcode shall be amended as follows:

1. (No change.)

2. Chapter 1 of the plumbing subcode, entitled "Definitions," shall be amended as follows:

i.-viii. (No change.)

ix. The definition of "Dead End, Potable Water" shall be deleted in its entirety.

x. The definition of "tempered water" shall be amended as follows: before "temperature," delete "desired" and after "temperature," delete "for its intended use, typically" and insert "of."

Recodify existing x.-xi. as xi.-xii. (No change in text.)

3. Chapter 2 of the plumbing subcode, entitled "General Regulations," shall be amended as follows:

i.-iv. (No change.)

v. In Section 2.16, Freezing or overheating, at item 1, "42" shall be inserted in the blank space provided. Additionally, the following shall be inserted: "Combination domestic/fire water service piping shall be installed such that the minimum earth cover is 42 inches or the top of the pipe is 12 inches below the frost depth of the locality, whichever is greater. Limited-area sprinkler systems installed in accordance with Section 903.3.5.1.1 of the building subcode, shall be installed such that the minimum earth cover is 42 inches." In the same section, at Item 2, "24" shall be inserted in the blank space provided. In addition, in the third line of Item 2, "6" shall be inserted in the blank space provided.

vi.-vii. (No change.)

viii. In Section 2.23, Dead Ends, subsection b shall be deleted.

ix. Section 2.24, Toilet facilities for construction workers, shall be deleted in its entirety.

4. Chapter 3 of the plumbing subcode, entitled "Materials," shall be amended as follows:

i.-iii. (No change.)

iv. In Section 3.1.3, Standards Applicable to Plumbing Materials, in the "Note," the following shall be inserted: APSP-- The Association of Pool and Spa Professionals, 2110 Eisenhower Avenue, Alexandria, VA 22314, tel: 703-838-0083, fax: 703-549-0493.

v. In Table 3.1.3, Standards for Approved Plumbing Materials and equipment, Part XI, Practices and Standards for Qualifications, Installation and Testing, insert: "20. Entrapment Avoidance for Swimming Pools, Spas and Hot Tubs: APSP-7 - 2006."

vi. Section 3.3.8a is amended to add the following phrase: "Pressure vessels shall be designed and constructed in accordance with the requirements of the American Society of Mechanical Engineers (ASME, Rules for Construction of Pressure Vessels, Section VIII/2004. Any pressure vessel that exceeds any of the following, shall meet the requirements of ASME and shall be stamped ASME: A heat input rating of 200,000 BTU per hour; or a water temperature of 200 degrees Fahrenheit; or a nominal water capacity of 120 gallons or any other thresholds of ASME that apply.

Recodify existing v.-vi. as vii.-viii. (No change in text.)

ix. (No change.)

5.-7. (No change.)

8. Chapter 7 of the plumbing subcode, entitled "Plumbing Fixtures, Fixture Fittings and Plumbing Appliances," shall be amended as follows:

i.-iii. (No change.)

iv. Note 1 to Table 7.21.1 is amended to delete the words "For accessible requirements, see local, state, or national codes." in the second sentence.

v. (No change.)

vi. Section 7.23, Safety features for spas and hot tubs, shall be deleted and Section 7.23, Safety features for swimming pools, spas and hot tubs, shall be inserted as follows:

"7.23 Safety Features for Swimming Pools, Spas and Hot Tubs.

7.23.1 Entrapment avoidance. Suction outlets shall be designed and installed in accordance with ANSI/APSP-7."

9. (No change.)

10. Chapter 10 of the plumbing subcode, entitled "Water Supply and Distribution," shall be amended as follows:

i.-v. (No change.)

vi. Section 10.5.9a. Exception (4) shall be deleted and the following inserted: "(4) Where fire protection systems supplied from a potable water system include a fire department (Siamese) connection which is located less than 1,700 feet from a non-potable water source, the water supply shall be protected by one of the following"

(i) Reduced pressure backflow preventer assembly; or

(ii) Reduced pressure detector assembly."

vii. (No change.)

viii. Section 10.15.1, Hot water supply system, shall be amended to add the phrase "Outlet temperature of hot water from lavatory faucets in public use facility restrooms or public toilet rooms shall be provided with a means to limit the maximum temperature to 110 degrees F."

ix. Insert new section 10.20, Multi-purpose fire sprinkler systems, as follows: Section P2904, Multi-purpose fire sprinkler systems, of the 2009 [page=2061] International Residential Code shall be considered part of the plumbing subcode.

11.-12. (No change.)

13. Chapter 13 of the plumbing subcode, entitled "Storm Water Drainage," shall be amended as follows:

i. In Section 13.1.5, Foundation drains, Notes a. through d. shall be amended to read "subsoil drains shall be provided in accordance with the building subcode."

ii.-iii. (No change.)

14. (No change.)

15. Chapter 16 of the plumbing subcode, entitled "Regulations Governing Individual Sewage Disposal Systems for Homes and Other Establishments Where Public Sewer Systems Are Not Available," shall be amended as follows:

i. (No change.)

ii. In Section 16.1.7, Abandoned disposal systems, insert "When an existing building is being demolished and the existing sewage disposal system is abandoned or an existing sewage disposal system is being abandoned and a connection is being made to the public sewer disposal system or new sewage disposal system, the plumbing subcode official shall ensure that the existing abandoned tank is disconnected from the building, pumped out, and filled with gravel, stones, or soil material."

Note: Existing standards of the Department of Environmental Protection and boards of health with respect to individual on-site sewage disposal systems remain in effect."

16.-18. (No change.)

19. Appendix E of the plumbing subcode, entitled "Special Design Plumbing Systems," shall be amended as follows:

i. Section E.9.3, Rainfall Rates, shall be deleted and the following shall be inserted: "Rainfall rates shall be applied so that the applicable rainfall rates for Burlington and Ocean counties and all counties south, shall be six (6) inches per hour; for Mercer and Monmouth counties and all counties north, the applicable rainfall rate shall be five (5) inches per hour."

ii. Section E.9.4, Secondary Roof Drainage, shall be deleted.

5:23-3.17 Fire protection subcode

(a) Rules concerning the subcode adopted are as follows:

1. Pursuant to the authority of P.L. 1975, c. 217 as modified by P.L. 1996, c. 53, the Commissioner hereby adopts the following portions of the building, electrical, mechanical and fuel gas subcodes, to the extent delineated in N.J.A.C. 5:23-3.4, as the fire protection subcode for New Jersey.

i. International Building Code/2009 of the International Code Council, Inc. ( N.J.A.C. 5:23-3.14):

(1)-(2) (No change.)

(3) Chapter 7--Fire and Smoke Protection Features;

(4)-(7) (No change.)

(8) Sections 2603 through 2613 of Chapter 26--Plastic;

(9)-(10) (No change.)

ii. National Electrical Code/2008 of the National Fire Protection Association (N.J.A.C. 5:23-3.16).

(1)-(5) (No change.)

iii. International Mechanical Code/2009 of the International Code Council (N.J.A.C. 5:23-3.20):

(1)-(7) (No change.)

iv. International Fuel Gas Code/2009 of the International Code Council (N.J.A.C. 5:23-3.22):

(1)-(3) (No change.)

2. (No change.)

(b) (No change.)

5:23-3.18 Energy Subcode

(a) Rules concerning the subcode adopted are as follows:

1. Pursuant to authority of P.L. 1975, c. 217, as modified by P.L. 1996, c. 53, the Commissioner hereby adopts the model code of the International Code Council, known as the International Energy Conservation Code (IECC/2009), as the energy subcode for New Jersey.

i. Copies of the IECC/2009 may be obtained from International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois 60478-5795.

ii. (No change.)

(b) The following chapters and sections of the energy subcode are amended as follows:

1. Chapter 1, Administration, shall be amended as follows:

i. Sections 101.1, Title, 101.2, Scope, and 101.3, Intent, shall be deleted.

ii. Section 101.4, Applicability, shall be deleted except for Subsection 101.4.6, Mixed Occupancy.

iii. Sections 103, Construction Documents, 104, Inspections, and 105, Validity, shall be deleted.

iv. Section 106.4, Other laws, shall be deleted.

v. Sections 107, Fees, 108, Stop Work Order, and 109, Board of Appeals, shall be deleted.

2. Chapter 2, Definitions, shall be amended as follows:

i. (No change.)

ii. The definitions "Addition", "Alteration", "Building", "Code Official", "Dwelling Unit," and "Repair" shall be deleted.

iii. The definition of "Residential Building" \*[shall]\* shall be amended to add the text "and R-5" after R-3.

3. Chapter 3, Climate Zones, shall be amended as follows:

i. Section 303.3, Maintenance information, shall be deleted.

4. Chapter 4, Residential Energy Efficiency, shall be amended as follows:

i. Section 402.3.6, Replacement fenestration, shall be deleted.

**\*ii. In Section 403.2.2, Sealing (Mandatory), the second paragraph "Effective January 1, 2013" shall be inserted before "Duct tightness."\***

\*[ii.]\* **\*iii.\*** In Section 403.7, Systems serving multiple dwelling units (Mandatory), delete "Sections 503 and 504" and replace with "Chapters 6 and 7 of the 2007 ASHRAE/IESNA Standard 90.1".

5. Chapter 5, Commercial Energy Efficiency, shall be amended as follows:

i. At Section 501.1, Scope, the text shall be deleted and replaced with the following: "The requirements contained in this chapter shall be applicable to commercial buildings, or portions thereof. These commercial buildings shall meet the ASHRAE/IESNA Standard 90.1/2007, Energy Standard for Buildings Except for Low-Rise Residential Buildings."

ii. Section 501.2, Application, shall be deleted and replaced with "501.2 Amendments. The following amendments shall apply to ASHRAE/2007:

1.-2. (No change.)

iii. Section 502, Building Envelope Requirements, Section 503, Building Mechanical Systems, Section 504, Service Water Heating, Section 505, Electrical Power and Lighting Systems, and Section 506, Total Building Performance, shall be deleted in their entirety.



6. (No change.)

5:23-3.20 Mechanical subcode

(a) Rules concerning the subcode adopted are as follows:

1. Pursuant to authority of P.L. 1975, c. 217, the Commissioner hereby adopts the model code of the International Code Council, Inc., known as the International Mechanical Code/2009. This code is hereby adopted by reference as the Mechanical Subcode for the State of New Jersey subject to the modifications in (b) below.

i. (No change.)

ii. The International Mechanical Code/2009 may be known and cited as the "mechanical subcode."

2. Any references to the International Plumbing Code, the International Energy Conservation Code or the International Existing Building Code listed in Chapter 15 shall be considered a reference to the appropriate plumbing, or energy subcode in N.J.A.C. 5:23-3 or the rehabilitation subcode in N.J.A.C. 5:23-6.

3. (No change.)

(b) The following chapters, sections or pages of the International Mechanical Code/2009 shall be amended as follows:

1. Chapter 1 of the mechanical subcode, entitled "Scope and Administration," is deleted in its entirety:

2. Chapter 2 of the mechanical subcode, entitled "Definitions," is amended as follows:

[page=2062] i. In Section 201.3, Terms defined in other codes, delete "International Plumbing Code," and insert "plumbing subcode."

ii. The definition of the term "alteration" is deleted.

iii. (No change.)

iv. The definition of the term "building" is deleted.

v. (No change.)

vi. The definition of the term "code official" is deleted.

3. Chapter 3 of the mechanical subcode, entitled "General Regulations," shall be amended as follows:

i. Section 301.1, Scope, is amended to delete the words "in accordance with Section 101.2."

ii. Section 301.4, Listed and labeled, is amended to delete the words "in accordance with Section 105."

iii. In Section 301.8, Plumbing connections, delete "International Plumbing Code" and insert "plumbing subcode (N.J.A.C. 5:23-3.15)" in its place.

iv. Section 301.11 is deleted.

v. Add new section 301.16, Safety devices and controls, as follows:

"Oil burners, other than oil stoves with integral tanks, shall be provided with means for manually stopping the flow of oil to the burner. Such device or devices shall be placed in a readily accessible location a minimum of 10 feet from the

burner. For electrically driven equipment, an identified switch in the burner supply circuit shall be provided at the entrance to the room or area where the appliance is located or, for equipment located in basements, the switch is required to be located at the top of stairs leading to the basement. An identifiable valve in the oil supply line, operable from a location a minimum of 10 feet from the burner shall be used for other than electrically driven or controlled equipment."

vi. (No change in text.)

vii. Section 307.2.1, Condensate disposal, is amended to add the following after the word "disposal" on line 3: "in accordance with the plumbing subcode." In addition, the second sentence shall be deleted.

viii. Section 307.2.2, Drain pipe materials and sizes, is deleted.

ix. Section 309, Temperature control, is deleted.

4. Chapter 5 of the mechanical subcode, entitled "Exhaust Systems," shall be amended as follows:

i. Section 503.1, General, is amended to replace the second sentence with the following: "The type and wiring methods for motors in areas that contain flammable vapors or dusts shall be in accordance with the electrical subcode."

ii. In Section 504.8, Common exhaust systems for clothes dryers located in multistory structures, item 7 is amended to add ", if provided," after the word "and".

iii. Section 512.1, General, is amended to add a sentence as follows: "This section shall not apply to radon construction techniques covered by subchapter 10 of the Uniform Construction Code."

5. Chapter 6 of the mechanical subcode, entitled "Duct Systems," is amended as follows:

i. Section 602.2.1, Materials in plenums, is amended to modify Exception 3 to read: "This section shall not apply to materials exposed within plenums in one-and two-family dwellings. Wire exposed in plenums of one-and two-family dwellings shall conform to the requirements of the electrical subcode."

ii. Section 602.2.1.1, Wiring, is deleted in its entirety and substitute the following language: "Wiring, cable and raceways installed in a plenum shall be listed and installed in accordance with the electrical subcode."

6. (No change.)

7. Chapter 10 of the mechanical subcode, entitled "Boilers, Water Heaters and Pressure Vessels," shall be amended as follows:

i. Section 1001.1, Scope, is amended to replace the words "installation, alteration, and repair of boilers," with the words "installation and alteration of boilers."

8. Chapter 11 of the mechanical subcode, entitled "Refrigeration," is amended as follows:

i. Section 1101.1, Scope, the word "repair" shall be deleted.

ii. Section 1102.2.2, Purity, is deleted.

iii. Add new Section 1103.1.1, Acceptable refrigerants, as follows: "Only refrigerants listed by the US Environmental Protection Agency (EPA), pursuant to the Significant New Alternatives Program (SNAP) under section 612 of the Clean Air Act Amendments, as acceptable substitutes for the particular use shall be permitted."

iv. Section 1109, Periodic testing, is deleted.

9. Chapter 13 of the mechanical subcode, entitled "Fuel Oil Piping And Storage," is amended as follows:

i. Section 1301.2, Storage and piping systems, is amended to add the following sentence: "Where the tank is of a size and type that is subject to the Department of Environmental Protection rules for the installation of Underground Storage Tanks at N.J.A.C. 7:14B, those rules shall apply."

10. Chapter 15 of the mechanical subcode, entitled "Referenced Standards," shall be amended as follows:

i. Under the heading "ICC," amend the following titles:

Recodify existing (2) and (3) as (1) and (2) (No change in text.)

11.-12. (No change.)

(c) (No change.)

5:23-3.21 One- and two-family dwelling subcode

(a) Rules concerning the subcode are adopted as follows:

1. Pursuant to authority of P.L. 1975, c. 217, as modified by P.L. 1996, c.53, the Commissioner hereby adopts the model code of the International Code Council, 2009 International Residential Code known as the "IRC/2009" as the one-and two-family dwelling subcode in New Jersey subject to the modifications stated in (c) below.

i. (No change.)

ii. The IRC/2009 may be known and cited as the one-and two-family dwelling subcode.

(b) (No change.)

(c) The following chapters or sections of the IRC/2009 shall be modified as follows:

1. Chapter 1, Scope and Administration, shall be deleted in its entirety. In addition, any referenced section of Chapter 1 shall be deleted throughout the code and "the administrative provisions of the Uniform Construction Code (N.J.A.C. 5:23)" shall be inserted.

2. Chapter 2, Definitions, shall be amended as follows:

i. The definition of "Addition" shall be deleted.

ii.-iv. (No change.)

v. The definition of "Attic, habitable" shall be deleted.

Recodify existing v.-vii. as vi.-viii. (No change in text.)

ix. The definition of "Building Official" shall be deleted.

x. In the definition of "Dwelling Unit," "living as a single housekeeping unit" shall be inserted after "persons."

Recodify existing ix.-xvii. as xi.-xix. (No change in text.)

3. Chapter 3, Building Planning, shall be amended as follows:

i.-iii. (No change.)

iv. Section R301.2.1.5, Topographic wind effects, shall be deleted.

v. (No change in text.)

vi. In Table R301.5, Minimum Uniformly Distributed Live Loads, delete "Balconies (exterior) and" from the fourth row. Insert a new row below "Decks" with "Exterior Balconies" in the "Use" column and "60" in the "Live Load" column.

vii. In Section R302.2, Townhouses, **\*in the first sentence of the exception, "1-hour" shall be deleted and "2-hour" shall be inserted. Additionally,\*** in the second sentence of the exception, "Chapters 34 through 43" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

**\*viii. In Section R302.2.4, Structural Independence, Item #5 shall be amended as follows: "1-hour" shall be deleted and "2-hour" shall be inserted.\***

\*[viii.]\* **\*ix.\*** In Exception 1 of R302.3, Two-family dwellings, "13R, or 13D" shall be inserted after "NFPA 13."

\*[ix.]\* **\*x.\*** Table R302.6, Dwelling/Garage Separation, shall be amended as follows: In the column entitled "Material" and the rows entitled "From all habitable rooms above the garage" and "Structure(s) supporting floor/ceiling assemblies used for separation required by this section," the text shall be deleted and "constructed with not less than a one-hour fire resistance rating (see N.J.U.C.C. FTO-13)" shall be inserted.

\*[x.]\* **\*xi.\*** In Section 302.13, Combustible Insulation Clearance, "Section N1102.4.5" shall be deleted and "the energy subcode (N.J.A.C. 5:23-3.18)" shall be inserted.

[page=2063] Recodify proposed xi.-xii. as **\*xii.-xiii.\*** (No change in text.)

\*[xiii.]\* **\*xiv.\*** In Section R307.1, Space required, "Figure R307.1, and in accordance with the requirements of Section P2705.1" shall be deleted and "Figure 7.3.2 of the plumbing subcode, entitled 'Minimum Fixture Clearances'" shall be inserted. In addition, Figure R307.1 shall be deleted in its entirety.

\*[xiv.]\* **\*xv.\*** In Section R310.1, Emergency escape and rescue required, "Basements, habitable attics and" shall be deleted. The sentence shall start with "Every." In addition, the exception shall be deleted in its entirety.

\*[xv.]\* **\*xvi.\*** In Section R311.3.1, Floor elevations at the required egress doors, in the Exception, "7 3/4 inches (196 mm)" shall be deleted and "8 1/4 inches (210 mm)" shall be inserted. Also, in Section R311.3.2, Floor elevations for other exterior doors, "7 3/4 inches (196 mm)" shall be deleted and "8 1/4 inches (210 mm)" shall be inserted.

\*[xvi.]\* **\*xvii.\*** In Section R311.7.4.1, Riser height, in the first sentence, "7 3/4 inches (196 mm)" shall be deleted and "8 1/4 inches (210 mm)" shall be inserted.

\*[xvii.]\* **\*xviii.\*** In Section R311.7.4.2, Tread depth, in the first sentence of the first paragraph, "10 inches (254 mm)" shall be deleted and "9 inches (229 mm)" shall be inserted. In addition, in the first sentence of the second paragraph, "10 inches (254 mm)" shall be deleted and "9 inches (229 mm)" shall be inserted.

\*[xviii.]\* **\*xix.\*** In Section R311.7.7.1, Height, "34 inches (864 mm)" shall be deleted and "30 inches (762 mm)" shall be inserted.

\*[xix.]\* **\*xx.\*** Section ~~\*[R311.5.7]~~ **\*R311.7.8\***, Illumination, shall be deleted in its entirety.

\*[xx.]\* **\*xxi.\*** In Section R311.8.3.1, Height, "34 inches (864 mm)" shall be deleted and "30 inches (762 mm)" shall be inserted.

\*[xxi.]\* **\*xxii.\*** In Section R312.2, Height, in both exceptions, "34 inches (864 mm)" shall be deleted and "30 inches (762 mm)" shall be inserted.

\*[xxii.]\* **\*xxiii.\*** \*[In]\* Section R313.1, Townhouse automatic fire sprinkler system, \*[insert "Effective January 1, 2012" at the beginning of the sentence. In the same section, the exception]\* shall be deleted. **\*Section R313.1.1 shall be retained.\***

\*[xxiii.]\* **\*xxiv.\*** In Section R313.1.1, Design and installation, "or NFPA 13D" shall be inserted after "Section P2904".

\*[xxiv.]\* **\*xxv.\*** \*[In]\* Section R313.2, One- and two-family dwellings automatic fire systems, \*["2011" shall be deleted and "2012" shall be inserted. In the same section, the exception]\* shall be deleted. **\*Section R313.2.1 shall be retained.\***

\*[xxv.]\* **\*xxvi.\*** Section R314.3.1, Alterations, repairs and additions, shall be deleted in its entirety.

\*[xxvi.]\* **\*xxvii.\*** In Section R314.4, Power source, both exceptions shall be deleted.

\*[xxvii.]\* **\*xxviii.\*** Section 315.2, Where required in existing dwellings, shall be deleted.

\*[xxviii.]\* **\*xxix.\*** Section R319, Site address, shall be deleted in its entirety.

\*[xxix.]\* **\*xxx.\*** Section R320, Accessibility, shall be deleted in its entirety.

\*[xxx.]\* **\*xxxi.\*** Section R321, Elevators and platform lifts, shall be deleted in its entirety.

\*[xxxi.]\* **\*xxxii.\*** In Section R322.1, General, "as established by Table R301.2(1)" shall be deleted.

\*[xxxii.]\* **\*xxxiii.\*** In Section R322.1.6., Protection of mechanical and electrical systems, the second sentence shall be deleted in its entirety.

\*[xxxiii.]\* **\*xxxiv.\*** In Section R322.1.7, Protection of water supply and sanitary sewage systems, in the first and second sentences, "and replacement" shall be deleted. Also, in the second sentence, "the plumbing provisions of this code and Chapter 3 of the International Private Sewage Disposal Code" shall be deleted and "the plumbing subcode (N.J.A.C. 5:23-3.15)" shall be inserted.

\*[xxxiv.]\* **\*xxxv.\*** In Section R322.1.9, Manufactured homes, in the first sentence, "or replacement" and "and the anchor and tie-down requirements of Section AE604 and AE605 of Appendix E shall apply" shall be deleted.

**\*xxxvi. In Section R322.3.1, Locations and site preparation, Item #1 shall be deleted and the Section R324.3.1 of the 2006 International Residential Code shall be inserted as follows: "1. Buildings and structures shall be located landward of the reach of mean high tide."\***

\*[xxxv.]\* **\*xxxvii.\*** Section R322.3.6, Construction Documents, shall be deleted in its entirety.

\*[xxxvi.]\* **\*xxxviii.\*** Section R323, Storm Shelters, shall be deleted.

4. Chapter 4, Foundations, shall be amended as follows:

i. In Section R401.1, Application, "as established by Table R301.2(1)" shall be deleted.

Recodify existing i. and ii. as ii. and iii. (No change in text.)

iv. In Section R403.1.4.1, Frost protection, the exception shall be deleted and the following shall be inserted:

Exception: Free-standing buildings meeting all of the following conditions shall not be required to be protected:

1. Buildings and other structures that represent a low hazard to human life in the event of failure, including, but not limited to, agricultural buildings, temporary buildings and minor storage facilities.

2. Area of 600 square feet (56 m<sup>2</sup>) or less for light-framed construction, or 400 square feet (37 m<sup>2</sup>) or less for other than light-framed construction; and

3. Eave height of 10 feet (3048 mm) or less.

v. (No change in text.)

vi. In Section 404.2.5, Drainage and dampproofing, delete "Sections R405 and R406, respectively." and insert "Section R406."

vii. In Table R404.1.1(1), Note B; Table R404.1.1(2), Note D; Table R404.1.1(3), Note D; Table R404.1.1(4), Note D; Table R404.1.2(2), Note A; Table R404.1.2(3), Note A; Table R404.1.2(4), Note A; Table R404.1.2(5), Note A; Table R404.1.2(6), Note A; Table R404.1.2(7), Note A; and Table R404.1.2(8), Note A, "Table R405.1" shall be deleted and "Table R406.1" shall be inserted.

viii. Sections R405, Foundation Drainage, with the exception of Table R405.1, which shall be renumbered as "Table R406.1", and R406, Foundation Waterproofing and Dampproofing, shall be deleted and the text of Section 1807, Dampproofing and Waterproofing from the International Building Code (IBC)/2006 shall be inserted as follows:

"R406.1 Where required. Walls or portions thereof that retain earth and enclose interior spaces and floors below grade shall be waterproofed and dampproofed in accordance with this section, with the exception of those spaces containing groups other than residential and institutional where such omission is not detrimental to the building or occupancy.

R406.1.1 Story above grade. Where a basement is considered a story above grade and the finished ground level adjacent to the basement wall is below the basement floor elevation for 25 percent or more of the perimeter, the floor and walls shall be dampproofed in accordance with Section R406.2 and a foundation drain shall be installed in accordance with Section R406.4.1. The foundation drain shall be installed around the portion of the perimeter where the basement floor is below ground level. The provisions of Sections R406.3 and R406.4.1 shall not apply in this case.

R406.1.2 Underfloor space. The finished ground level of an underfloor space such as a crawl space shall not be located below the bottom of the footings. Where there is evidence that the ground water table rises to within six inches (152 mm) of the ground level at the outside building perimeter or where there is evidence that the surface water does not readily drain from the building site, the ground level of the underfloor space shall be as high as the outside finished ground level, unless an approved drainage system is provided. The provisions of Sections R406.2, R406.3 and R406.4 shall not apply in this case.

R406.1.2.1 \*[Floor]\* \*Flood\* hazard areas. For buildings and structures in flood hazard areas as established in Section \*[R327]\* \*R322\*, the finished ground level of an underfloor space such as a crawl space shall be equal to or higher than the outside finished ground level.

Exception: Under-floor spaces that meet the requirements of FEMA/FIA-TB-11.

R406.1.3 Groundwater control. Where the groundwater table is lowered and maintained at an elevation not less than 6 inches (152 mm) below the bottom of the lowest floor, the floor and walls shall be dampproofed in accordance with Section R406.2. The design of the system to lower the groundwater table shall be based on accepted principles of engineering that shall consider, but not necessarily be [page=2064] limited to, permeability of the soil, rate at which water enters the drainage system, rated capacity of pumps, head against which pumps are to pump; and the rated capacity of the disposal area of the system.

R406.2 Dampproofing required. Where hydrostatic pressure will not occur, floors and walls for other than wood foundation systems shall be dampproofed in accordance with this section. Wood foundation systems shall be constructed in accordance with AFPA TR7.

R406.2.1 Floors. Dampproofing materials for floors shall be installed between the floor and the base course required by Section R406.4.1, except where a separate floor is provided above a concrete slab.

Where installed beneath the slab, dampproofing shall consist of not less than six-mil (0.006 inch; 0.152 mm) polyethylene with joints lapped not less than six inches (152 mm), or other approved methods or materials. Where permitted to be installed on top of the slab, dampproofing shall consist of mopped-on bitumen, not less than four-mil (0.004 inch; 0.102 mm) polyethylene, or other approved methods or materials. Joints in the membrane shall be lapped and sealed in accordance with the manufacturer's installation instructions.

R406.2.2 Walls. Dampproofing materials for walls shall be installed on the exterior surface of the wall, and shall extend from the top of the footing to above ground level.

Dampproofing shall consist of a bituminous material, three pounds per square yard (16N/m<sup>2</sup>) of acrylic modified cement, 1/8-inch (3.2 mm) coat of surface-bonding mortar complying with ASTM C 887, any of the materials permitted for waterproofing by Section R406.3.2, or other approved methods or materials.

R406.2.2.1 Surface preparation of walls. Prior to application of dampproofing materials on concrete walls, holes and recesses resulting from the removal of form ties shall be sealed with a bituminous material or other approved methods or materials. Unit masonry walls shall be parged on the exterior surface below ground level with not less than 3/8 inch (9.5 mm) of Portland cement mortar. The parging shall be covered at the footing.

Exception: Parging of unit masonry walls is not required where a material is approved for direct application to the masonry.

R406.3 Waterproofing required. Where the groundwater investigation indicates that a hydrostatic pressure condition exists, and the design does not include a groundwater control system as described in Section R406.1.3, walls and floors shall be waterproofed in accordance with this section.

R406.3.1 Floors. Floors required to be waterproofed shall be of concrete, designed and constructed to withstand the hydrostatic pressures to which the floors will be subjected.

Waterproofing shall be accomplished by placing a membrane of rubberized asphalt, butyl rubber, or not less than six-mil polyvinyl chloride with joints lapped not less than six inches (152 mm) or other approved materials under the slab. Joints in the membrane shall be lapped and sealed in accordance with the manufacturer's installation instructions.

R406.3.2 Walls. Walls required to be waterproofed shall be of concrete or masonry and shall be designed and constructed to withstand the hydrostatic pressures and other lateral loads to which the walls will be subjected.

Waterproofing shall be applied from the bottom of the wall to not less than 12 inches (305 mm) above the maximum elevation of the ground water table. The remainder of the wall shall be dampproofed in accordance with Section R406.2.2. Waterproofing shall consist of two-ply hot-mopped felts, not less than six-mil (0.006 inch; 0.152 mm) polyvinyl chloride, 40-mil (0.040 inch; 1.02 mm) polymer-modified asphalt, six-mil (0.006 inch; 0.152 mm) polyethylene or other approved methods or materials capable of bridging nonstructural cracks. Joints in the membrane shall be lapped and sealed in accordance with the manufacturer's installation instructions.

R406.3.2.1 Surface preparation of walls. Prior to the application of waterproofing materials on concrete or masonry walls, the walls shall be prepared in accordance with Section R406.2.2.1.

R406.3.3 Joints and penetrations. Joints in walls and floors, joints between the wall and floor, and penetrations of the wall and floor shall be made watertight utilizing approved methods and materials.

R406.4 Subsoil drainage system. Where a hydrostatic pressure condition does not exist, dampproofing shall be provided and a base shall be installed under the floor and a drain installed around the foundation perimeter. A subsoil drainage

system designed and constructed in accordance with Section R406.1.3 shall be deemed adequate for lowering the groundwater table.

R406.4.1 Floor base course. Floors of basements, except as provided for in Section R406.1.1, shall be placed over a floor base course not less than four inches (102 mm) in thickness that consists of gravel or crushed stone containing not more than 10 percent of material that passes through a No. 4 (4.75 mm) sieve.

Exception: Where a site is located in well-drained gravel or sand/gravel mixture soils, a dedicated drainage system is not required.

R406.4.2 Foundation drain. A drain shall be placed around the perimeter of a foundation that consists of gravel or crushed stone containing not more than 10 percent material that passes through a No. 4 (4.75 mm) sieve. The drain shall extend a minimum of 12 inches (305 mm) beyond the outside edge of the footing. The thickness shall be such that the bottom of the drain is not higher than the bottom of the base under the floor, and that the top of the drain is not less than six inches (152 mm) above the top of the footing. The top of the drain shall be covered with an approved filter membrane material. Where a drain tile or perforated pipe is used, the invert of the pipe or tile shall not be higher than the floor elevation. The top of joints or the top of perforations shall be protected with an approved filter membrane material. The pipe or tile shall be placed on not less than two inches (51 mm) of gravel or crushed stone complying with Section R406.4 and shall be covered with not less than six inches (152 mm) of the same material.

R406.4.3 Drainage discharge. The floor base and foundation perimeter drain shall discharge by gravity or mechanical means into an approved drainage system that complies with the plumbing subcode.

Exception: Where a site is located in well-drained gravel or sand/gravel mixture soils, a dedicated drainage system is not required.

R406.4.4 Precast concrete foundations. Precast concrete walls that retain earth and enclose habitable or useable space located below grade that rest on crushed stone footings shall have a perforated drain pipe installed below the base of the wall on either the interior or the exterior side of the wall, at least one foot (305 mm) beyond the edge of the wall. If the exterior drainage pipe is used, an approved filter membrane material shall cover the pipe. The drainage system shall discharge into an approved drainage system that complies with the plumbing subcode."

ix. (No change.)

x. In Section R408.3, Unvented crawl space, in Condition 2.1 and Condition 2.2, "Section N1102.2.9" shall be deleted and "the energy subcode (N.J.A.C. 5:23-3.18)" shall be inserted.

xi. In Section R408.7, Flood resistance, "as established by Table R301.2(1)" shall be deleted.

5. (No change.)

6. Chapter 6, Wall Construction, shall be amended as follows:

i. In Figure R602.6.1, Notching and Bored Hole Limitations for Exterior Walls and Bearing Walls, "eight 10d nails" shall be deleted and "three-8d nails" shall be inserted.

ii. In Section R602.6.1, Drilling and notching of top plate, "eight 10d (0.148 inch diameter)" shall be deleted and "three-8d" shall be inserted.

iii. Section R606.1.1, Professional registration not required, shall be deleted.

iv. (No change.)

7. Chapter 8, Roof-Ceiling Construction, shall be amended as follows:



i.-ii. (No change.)

8. Chapter 9, Roof Assemblies, shall be amended as follows:

i. In Section R903.4.1, Overflow drains and scuppers, in the last sentence, "International Plumbing Code" shall be deleted and "plumbing subcode (N.J.A.C. 5:23-3.15)" shall be inserted in its place.

ii. (No change.)

9.-11. (No change.)

12. Chapter 13, General Mechanical System Requirements, shall be amended as follows:

i. In Section M1305.1.3.1, Electrical requirements, "Chapter 39" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

[page=2065] ii. In Section M1305.1.4.3, Electrical requirements, "Chapter 39" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

iii. (No change.)

iv. In Section 1307.5, Electrical appliances, "and 34 through 43" shall be deleted and "and the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted at the end of the sentence.

v. Section M1307.6, Plumbing Connections, "Chapters 29 and 30" shall be deleted and "the plumbing subcode (N.J.A.C. 5:23-3.15)" shall be inserted in its place.

vi. Add new Section M1307.7 as follows:

M1307.7 Safety devices and controls. Oil burners, other than oil stoves with integral tanks, shall be provided with means for manually stopping the flow of oil to the burner. Such device or devices shall be placed in a readily accessible location a minimum of 10 feet from the burner. For electrically driven equipment, an identified switch in the burner supply circuit shall be provided at the entrance to the room or area where the appliance is located or, for equipment located in basements, the switch is required to be located at the top of stairs leading to the basement. An identifiable valve in the oil supply line, operable from a location a minimum of 10 feet from the burner, shall be used for other than electrically driven or controlled equipment.

13. Chapter 14, Heating and Cooling Equipment, shall be amended as follows:

i. (No change.)

ii. In Section M1405.1, General, "Chapters 34 through 43 of this code" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

iii. In Section M1406.1, General, "Chapters 34 through 43 of this code" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

iv. In Section M1406.2, Clearances, "Chapters 34 through 43 of this code" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

v. In Section M1407.1, General, "Chapters 34 through 43 of this code" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

vi.-viii. (No change.)

14. (No change.)

15. Chapter 20, Boilers/Water Heaters, shall be amended as follows:

i. (No change.)

ii. In Section M2005.3, Electric water heaters, "Chapters 34 through 43" shall be deleted and "the electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

16. Chapter 21, Hydronic Piping, shall be amended as follows:

i. In Section M2101.2, System drain down, "Chapters 25 through 32 of this code" shall be deleted and "the plumbing subcode (N.J.A.C. 5:23-3.15)" shall be inserted.

ii. (No change.)

17. Chapter 22, Special Piping and Storage Systems, shall be amended as follows:

i. In Section M2201.2, Above-ground tanks, in the first sentence and in the exception, "above ground or" shall be deleted and "residential" shall be inserted before "building."

18. (No change.)

19. Chapter 24, Fuel Gas, shall be amended as follows:

i. In Section G2402.3, Terms defined in other codes, "International Building Code, International Fire Code, and International Plumbing Code" shall be deleted and "electrical, building, fire protection, and plumbing subcodes" shall be inserted.

ii.-v. (No change.)

vi. In Section G2410.2, Connections, "Chapters 34 through 43" shall be deleted and "the Electrical subcode (N.J.A.C. 5:23-3.16)" shall be inserted.

vii.-viii. (No change.)

ix. Add new Section G2412.9 as follows:

G2412.9 (401.9) Protection from vehicle impact. Gas meters, related regulators and piping that are installed indoors or outdoors and are subject to vehicle impact shall be protected by barriers meeting the requirements of Section 312 of the International Fire Code. For the purpose of applying this provision, "subject to vehicle impact" shall mean located within three feet of any garage door opening, driveway or designated parking area and not separated by a building wall from the space where a vehicle may be operated.

Exception: If verification of the installation of an excess flow valve is provided by the gas utility, vehicle impact barriers shall not be required.

x. In Section G2413.6.1, Liquefied petroleum gas systems, insert the following at the beginning of the section: "The operating pressure for undiluted LP-gas systems shall not exceed 20 psig (140 kPa gauge)."

Recodify existing x.-xiv. as xi.-xv. (No change in text.)

20. Chapters 25 through 28 shall be deleted in their entirety. Plumbing requirements under the scope of this subcode shall be regulated by the plumbing subcode.

21. Chapter 29, Water Supply and Distribution, shall be deleted except P2904, Multi-purpose fire sprinkler systems.

i. Section P2904 shall be amended as follows:

(1) In Section P2904.1, General, the last sentence shall be deleted and "A backflow flow preventer shall be required to separate a stand-alone sprinkler system from the water distribution system in accordance with the plumbing subcode (N.J.A.C. 5:23-3.15)." shall be inserted.

(2) In Section P2904.2.3, Freezing areas, "Section P2603.6" shall be deleted and "the plumbing subcode (N.J.A.C. 5:23-3.15)" shall be inserted.

(3) In Section P2904.8.1, Preconcealment Inspection, item 8, "Section P2503.7" shall be deleted and "the plumbing subcode (N.J.A.C. 5:23-3.15)" shall be inserted.

22. Chapters 30 through 33 shall be deleted in their entirety. Plumbing requirements under the scope of this subcode shall be regulated by the plumbing subcode.

23. Chapters 34 through 43 shall be deleted in their entirety. Electrical requirements under the scope of this subcode shall be regulated by the electrical subcode.

24. Chapter 44, Referenced standards, shall be amended as follows:

i. Under the subheading, NFPA, "NFPA 13R-07, Installation of Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height" shall be inserted.

25. The Appendices shall be amended as follows:

i.-iii. (No change.)

iv. Appendix G, Swimming pools, Spas and hot tubs, shall be adopted as part of this subcode and Section AG105.2, Outdoor swimming pool, Provision 9 shall be deleted in its entirety. In the same section, under Provision 10, Item 10.1 shall be deleted. In addition, the last sentence in Item 10.2 shall be deleted. Also, Section AG105.3, Indoor swimming pool, "Item 9" shall be deleted and "Items 1 through 7" shall be inserted.

v. (No change.)

vi. Appendix I, Private Sewage Disposal; Appendix J, Existing Buildings and Structures; Appendix L, Permit Fees; Appendix M, Home Day Care - R-3 Occupancy; Appendix N, Venting Methods; Appendix O, Gray Water Recycling Systems; Appendix P, Sizing of Water Piping Systems; and Appendix Q, ICC International Residential Code Electrical Provisions/National Electrical Code Cross-Reference, shall be deleted in their entirety.

5:23-3.22 Fuel gas subcode

(a) Rules concerning the subcode adopted are as follows:

1. Pursuant to authority of P.L. 1975, c. 217, the Commissioner hereby adopts the model code of the International Code Council, Inc., known as the International Fuel Gas Code/2009. This code is hereby adopted by reference as the fuel gas subcode for the State of New Jersey subject to the modifications in (b) below.

i. (No change.)

ii. The International Fuel Gas Code/2009 may be known and cited as the "fuel gas subcode."

2. Any references to the International Plumbing Code or the International Existing Building Code listed in Chapter 8 shall be considered a reference to the appropriate plumbing subcode in N.J.A.C. 5:23-3 or rehabilitation subcode in N.J.A.C. 5:23-6.

3. (No change.)

(b) The following chapters, sections or pages of the International Fuel Gas Code/2009 shall be amended as follows:

[page=2066] 1. Chapter 1 of the fuel gas subcode, entitled "Scope and Administration," is deleted in its entirety.

2. Chapter 2 of the fuel gas subcode, entitled "Definitions," is amended as follows:

i. In Section 201.3, Terms defined in other codes, delete "International Plumbing Code," and insert "the plumbing subcode."

ii. The definition of the term "alteration" is deleted;

iii.-iv. (No change.)

v. The definition of the term "code official" is deleted.

vi. (No change.)

3. Chapter 3 of the fuel gas subcode, entitled "General Regulations," shall be amended as follows:

i. Section 301.1, Scope, is amended to delete the words "in accordance with Section 101.2."

ii. (No change.)

iii. Section 301.9, Repair, is deleted.

iv. Section 305.1, General, delete the second paragraph in its entirety.

v. Section 307.1, Evaporators and cooling coils, delete "International Mechanical Code" and insert "plumbing subcode (N.J.A.C. 5:23-3.15)."

Recodify existing v.-vi as vi.-vii. (No change in text.)

4. Chapter 4 of the fuel gas subcode, entitled "Gas Piping Installation," shall be amended as follows:

i.-ii. (No change.)

iii. In Section 402.6.1, Liquefied petroleum gas systems, insert the following at the beginning of the section: "The operating pressure for undiluted LP-gas systems shall not exceed 20 psig (140 kPa gauge)."

iv. Section 403.3, Other materials, is deleted.

5. (No change.)

6. Chapter 6 of the fuel gas code, entitled "Specific Appliances," shall be amended as follows:

i. In Section 614.8, Common exhaust systems for clothes dryers located in multistory structures, item 7, insert ", if provided," after the word "and".

ii. (No change in text.)

7. Chapter 8 of the fuel gas code, entitled "Referenced Standards," shall be amended as follows:

i. Under the heading "ICC," amend the following titles:

Recodify existing (2) and (3) as (1) and (2) (No change in text.)

8.-9. (No change.)

## SUBCHAPTER 12. ELEVATOR SAFETY SUBCODE

### 5:23-12.2 Referenced standards

(a) (No change.)

(b) All operating and electrical parts and accessory equipment for elevator devices shall be maintained in safe operating condition. The elevator devices shall be maintained to conform to the applicable safety standard at the time of the installation and/or alteration. The maintenance of elevator devices shall conform to the most recent edition of ASME A18.1 or ASME A90.1 referenced in the building subcode, or ASME A17.1 (1996-1998), Section 1206 (except 1206.1h). Maintenance of ASME A17.1 elevator devices shall be in accordance with (c) below.

(c) Maintenance of elevator devices installed under ASME A17.1 shall conform with the following:

1. Maintenance of elevator devices installed under ASME A17.1 shall comply with Sections 8.6.1 through 8.6.12 except for: 8.6.1.2.1, 8.6.1.3, 8.6.1.4, 8.6.1.6.3(a), 8.6.1.6.5, 8.6.5.8, 8.6.7.3, 8.6.7.4, 8.6.7.8, 8.6.7.9, 8.6.8.2, 8.6.8.3, 8.6.11.3, 8.6.11.4, 8.6.11.6, 8.6.11.7, 8.6.11.8, 8.6.12.1.2, 8.6.12.2.2, 8.6.12.2.4, 8.6.12.2.5, 8.6.12.2.6, and 8.6.12.3.4.

2. Additionally, escalators installed under ASME A17.1-2000 and later editions shall comply with sections 8.6.8.2(d) and 8.6.8.3.

3. Where unique or product-specific procedures or methods are required to inspect or test equipment, such procedures or methods shall be made available to the owners and kept where they are readily available to the authority having jurisdiction, authorized and elevator personnel.

(d)-(f) (No change.)

### 5:23-12.12 Special safety equipment

(a)-(d) (No change.)

(e) A sign stating "DO NOT USE A STANDING ESCALATOR AS A BUILDING STAIR" shall be permanently placed where it is readily visible to the general public at the top and bottom landings of an escalator. This requirement shall apply to new escalator installations and to existing escalators. Each of such signs on existing escalators shall comply with the applicable requirements of ASME A17.1-93-95, Rule 805.2.b. Signs on newly installed escalators shall comply with the Additional Signs requirements of ASME A17.1 referenced in the building subcode. All existing escalators shall be required to comply with this subsection by August 18, 2004.

