

Title: (FACE) New York
Investigator: Kitty Gelberg
Affiliation: New York State Department of Health
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NIOSH Scientific Administrator: Linda Frederick, Ph.D.

Final Report Abstract:

The New York State Department of Health, Bureau of Occupational Health has participated in the Fatality Assessment and Control Evaluation (FACE) program since 2001. From September 2001 through August 2006, 661 reports of traumatic occupational fatalities in New York State (NYS) excluding New York City have been received, 33 investigations have been conducted, and 30 reports have been completed. Because of the unique circumstances that may contribute to injuries and fatalities to the special populations of young, older and foreign-born workers, NY FACE has targeted fatalities within these groups for investigations. In addition, NY FACE has targeted fatalities occurring within agriculture and highway work zone settings, and machinery-related incidents – all high-risk areas in NYS.

Besides focusing on conducting investigations, NY FACE sought to increase awareness of the program and likewise, raise awareness of preventable factors contributing to work-related fatalities. NY FACE has conducted extensive outreach to potential fatality reporters and has cut by two-thirds the average amount of time to receive an initial report of a work-related fatality. Also, a work-related fatalities web page was established featuring materials developed by NY FACE, work-related fatality surveillance information, and links to various safety and health organizations. Over 17,000 web hits have occurred to this site since the program started tracking hits to the web site in January 2003. Health and safety professionals are directed to the web page through an electronic listserve of 192 individuals whenever new information is posted. In addition, materials have been developed to address specific hazards or high-risk occupations including FACE Facts sheets that have been translated into Spanish. After conducting investigations of several incidents where pedestrians were struck by vehicles in various work environments, NY FACE developed a tailgate training module entitled “Preventing Deaths and Injuries to Public Workers while Working around Mobile Equipment” emphasizing the need for caution when working around mobile equipment. This module was pilot-tested and following favorable comments, 250 copies were printed. These were offered to all county and town public works and highway departments throughout NYS and posted on the web page along with a Power Point version. To date, 73 copies of the training have been requested.

NY FACE has evaluated the program to identify successful activities and opportunities for improving the program. This evaluation identified that NY FACE has done an exceptional job with improving timeliness of case ascertainment, increasing number and type of reporting sources, and with developing partnerships throughout NYS. During this grant period, NY FACE also focused its attention on conducting site investigations and preparing materials, including

FACE reports and FACE Facts sheets using the CDC/NIOSH model, for dissemination throughout the working and occupational health and safety communities. To evaluate the program's impact on employers and employees, NY FACE has re-contacted many of the companies where investigations have occurred and learned that the reports were useful and many of the recommendations made by NY FACE were incorporated into company policies and daily procedures.

Impact of the Project:

Highlights/Significant Findings

The New York State Department of Health, Bureau of Occupational Health (BOH) has participated in the Fatality Assessment and Control Evaluation (FACE) program since 2001. From September 2001 through August 2006, 661 reports of traumatic occupational fatalities in upstate New York have been received by BOH, 33 investigations have been completed, and 30 reports have been completed. Other accomplishments of the NY FACE program include:

- Over 1,000 people and organizations have been contacted by mail regarding New York's participation in the FACE program and requesting that fatalities be reported to the program.
- A dedicated toll-free phone line was established to receive fatality reports. From September 2001 through August 2006, 71 reports (10.7 %) have been received via the phone line.
- NY FACE has cut by two-thirds the average amount of time to receive an initial report of a work-related fatality. For those cases that NY FACE investigated, the time it took to receive a fatality report decreased from 4.5 days in the first two years of the program to 1.4 days in the last two-and-a-half years.
- A work-related fatalities web page was established featuring NY FACE materials, work-related fatality surveillance information, and links to various safety and health organizations. Over 17,000 web hits have occurred to this site since the program started tracking hits to the web site in January 2003.
- Subsequent to a NY FACE investigation where a truck driver was run over by a mobile landfill compactor at a municipal landfill, NY FACE developed a FACE Facts sheet based on the incident that was disseminated to all 49 municipal landfills throughout NYS. A newspaper reporter informed the program that one of the contacted landfills had adopted a policy requiring all landfill visitors to wear high visibility safety vests as a direct result of our FACE Facts recommendation.
- After the investigation of a department store processing manager who was crushed by the hydraulic ram of a cardboard baling machine, the company developed and implemented a baler safety program that included all major components recommended by NY FACE. As part of the baler safety program, a facility maintenance group at each of the 80 department stores in the region now inspects balers regularly. Following the fatal incident, a NY FACE Facts sheet based on the report was developed. NY FACE worked with the NYS Retail Council to write and disseminate an article based on the NY FACE report and FACE Facts sheet – "Department Store Employee Crushed in a Baling Machine" - in their summer newsletter. The Council is a membership trade association that represents nearly 5,000 stores and affiliated businesses throughout the state.

- Following the investigation of a machine operator who was run over by a front-end loader at a municipal rock salt stockyard, the city Department of General Services (DGS) had designated a staff member to be in charge of developing, implementing and maintaining the department's safety and health programs. The DGS also outfitted a new truck with a video camera that allows the operator to view the entire area behind the truck. Both measures were recommended by NY FACE. A tailgate training module titled "Preventing deaths and injuries to public workers while working around mobile equipment" was developed by NY FACE. After this module was pilot tested and evaluated by NYSDOH, a final training was developed and offered to all county and town public works and highway departments throughout NYS. To date, 73 copies of the training have been requested and response to the training has been very positive.

- A FACE Facts sheet entitled "Not Following Lockout/Tagout Procedures Can Be Fatal" was developed following a fatality investigation at a pizza dough manufacturing facility where the victim was fatally injured while cleaning a dough machine. The FACE Facts sheet was disseminated to companies with the same industry code as the company where the fatality occurred, equipment manufacturers of dough making machines in the United States, facilities identified as using those machines, and the NYS Association of Retail Bakers.

- NY FACE report – "Dairy Farm Owner Dies during Manure Pump PTO Entanglement" - was published in the "Journal of Agromedicine: Practice, Policy and Research", Vol 11(3), 2005. The journal, under new editorship, emphasizes agricultural health and safety issues that affect the producer, consumer, and the environmental health of communities impacted by agricultural practices. In addition, this report was utilized as a case study in the Northeast Farm Child Safety Journalist Workshop held during June 2005. The National Farm Medicine Center, Children's Center in Marshfield, WI and the Northeast Center organized this workshop in Cooperstown NY. The FACE report was provided to each of the participants and was discussed in a case study format. This exercise helped journalists understand the contributing factors involved in this kind of incident, and further helped them to understand and identify prevention strategies.

- A FACE Facts sheet designed to help prevent tree-work-related fatalities was developed following a fatality investigation where a Guatemalan tree-service worker was killed when he was pulled into a brush chipper. An article based on the FACE Facts sheet was published in the Summer 2006 issue of "Shade Tree Notes", a publication of the New York State Chapter of the International Society of Arboriculture, a group with over 600 members. In addition, copies of the FACE Facts sheet were sent to all county and town public works and highway departments throughout NYS. Subsequent to the mailing, four highway departments/ Departments of Public Works requested additional copies and a poster-sized version of the sheet for worksite posting.

- NY FACE collaborated with the NY Logger Training program to disseminate information related to the prevention of logging fatalities. Five hundred copies of the WV FACE "Logger's Safety Field Guide" were printed to be used as part of a proposed curriculum for BOCES (Board of Cooperative Educational Services –alternative educational settings that provide career training) centers throughout the state for young people involved in logging training programs.

- After the investigation of a machine operator who was caught by an ingoing pinch point on a hot tin coating machine, the company installed a barrier guard and interlocked the tinning machine with the guard to prevent workers from contacting the machine after the guard was removed. The company has also required workers to shut down the tinning line before performing cleaning and has provided employee training and closer supervision to ensure that

workers strictly follow the safe machine cleaning procedure. All of these measures had been recommended by NY FACE. Additionally, the company was in the process of installing an engineering control to reduce roller cleaning to help avoid potential injuries.

The company also provided NY FACE with contact information for the Copper and Brass Fabricator Council (CBFC), a national trade association in Washington DC, stating that more companies could benefit from the information provided by the NY FACE program. The CBFC distributed the FACE report on this incident at the Council's semi-annual environmental meeting. Safety and environmental representatives of eight copper and brass manufacturing companies attended the meeting. The eight companies employed from 400 to 2000 workers each in the states of New York, Pennsylvania, Michigan, Ohio, Illinois, Missouri, Mississippi and Arkansas. According to the CBFC representative, the type of the work practice that led to the particular fatal incident investigated by NY FACE (i.e., cleaning rollers without shutting down the machine) was very common in the brass and copper manufacturing trade. The Council believed that the NY FACE report will help raise the council members' awareness of the hazards and promote safe work practice.

- Following the investigation of a city employee who was killed when his clothing became entangled by an unguarded Power Take Off (PTO) shaft on a salt truck, the DPW implemented a procedure to inspect and certify the equipment being repaired or maintained by the maintenance department before releasing it back to service. The equipment operators were required to perform daily safety checks on the mobile equipment. A standard safety salt truck operating procedure was developed and workers received training. The DPW has still not designated a safety and health person to oversee the Department's safety and health programs, although NY FACE staff continues to work with the Department to try to get this recommendation implemented. A copy of the tailgate training module was provided to them to assist with employee training on mobile equipment safety.

- Following the investigation of an ironworker who was killed when he was crushed between the elements of a bridge support structure he was dismantling at a bridge construction site, the company implemented two of the NY FACE recommendations that were specific to the incident site. These included providing workers with safety and hazard awareness training immediately after the fatal incident, and providing workers with safe access to the work site.

The employer in this incident was a civil and heavy industrial construction company that currently employs approximately 1,800 workers in southern New England and New York State. They also implemented a new company-wide policy suggested by NY FACE that ensures any modification or change of an original engineering plan has to be evaluated and approved by the company's licensed structural engineer who designed the plan. A form that clearly documents the intended modification is to be signed off by the licensed structural engineer, safety manager, project engineer, site superintendent and foreman before the modification can be executed. The system is intended to eliminate the unapproved modification of the original engineering plan that may subject workers to potential safety hazards.

Translation of Findings

Each of the 33 investigations conducted by NY FACE, along with each FACE Facts Sheet contain recommendations for preventing future occurrences of fatalities. Immediately upon completion of a FACE report, the report was shared with all individuals/organizations who assisted with the investigation. This included the company where the fatality occurred as well as

other individuals or organizations including but not limited to, EMS, OSHA, Sheriff's offices, State Police, labor unions and equipment manufacturers. Other appropriate audiences were identified, where possible, for sharing the information. It is not possible to know whether the provision of this information resulted in any reduction of workplace hazards, but it is expected that it resulted in an intermediate goal of increasing awareness of occupational safety issues. Examples of how this information was shared is provided below:

- A work-related fatalities web page was established featuring NY FACE materials, work-related fatality surveillance information, and links to various safety and health organizations. Over 17,000 web hits have occurred to this site since the program started tracking hits to the web site in January 2003.

- Following the investigation of a machine operator who was run over by a front-end loader at a municipal rock salt stockyard, a tailgate training module based on the FACE report was developed by NY FACE. After this module was pilot tested and evaluated by NYSDOH, a final training was developed and offered to all county and town public works and highway departments throughout NYS. To date, 73 copies of the training have been requested and response to the training has been very positive. NY FACE also developed a Power Point format of the training module that was available to download from the NYSDOH web site.

- A FACE Facts sheet entitled "Not Following Lockout/Tagout Procedures Can Be Fatal" was developed following a fatality investigation at a pizza dough manufacturing facility where the victim was fatally injured while cleaning a dough machine. The FACE Facts sheet was disseminated to companies with the same industry code as the company where the fatality occurred, equipment manufacturers of dough making machines in the United States and facilities identified as using those machines, and the NYS Association of Retail Bakers.

- Following the investigation of a farm worker killed when he became entangled in a grain bin auger (Case 04NY121), the farm involved in the incident asked NY FACE to provide follow-up auger safety training to the farm's workers. NY FACE agricultural investigator, Mr. Hallman, provided the training.

- NY FACE report – "Dairy Farm Owner Dies during Manure Pump PTO Entanglement" - was published in the "Journal of Agromedicine: Practice, Policy and Research", Vol 11(3), 2005. The journal, under new editorship, emphasizes agricultural health and safety issues that affect the producer, consumer, and the environmental health of communities impacted by agricultural practices. In addition, this report was utilized as a case study in the Northeast Farm Child Safety Journalist Workshop held during June 2005. The National Farm Medicine Center, Children's Center in Marshfield, WI and the Northeast Center organized this workshop in Cooperstown NY. The FACE report was provided to each of the participants and was discussed in a case study format. This exercise helped journalists understand the contributing factors involved in this kind of incident, and further helped them to understand and identify prevention strategies.

- A FACE Facts sheet designed to help prevent tree-work-related fatalities was developed following a fatality investigation where a Guatemalan tree-service worker was killed when he was pulled into a brush chipper. An article based on the FACE Facts sheet was published in the Summer 2006 issue of "Shade Tree Notes", a publication of the New York State Chapter of the International Society of Arboriculture, a group with over 600 members. In addition, copies of the FACE Facts sheet were sent to all county and town public works and highway departments

throughout NYS. Subsequent to the mailing, four highway departments/ Departments of Public Works requested additional copies and a poster-sized version of the sheet for worksite posting.

- NY FACE collaborated with the NY Logger Training program to disseminate information related to the prevention of logging fatalities. Five hundred copies of the WV FACE “Logger’s Safety Field Guide” were printed to be used as part of a proposed curriculum for BOCES (Board of Cooperative Educational Services –alternative educational settings that provide career training) centers throughout the state for young people involved in logging training programs.

- A copy of the NY FACE tailgate training module “Preventing Deaths and Injuries to Public Workers while Working Around Mobile Equipment” and the NY FACE Sanitation FACE Facts sheet were provided to the NYS Association for Solid Waste Management. The organization will include the information in their quarterly newsletter, Wasteline. In addition, the association has requested that NY FACE staff present information about the tailgate training module at one or two of their regional meetings. These meetings generally have 40-80 attendees including landfill supervisors and other interested individuals. They have also requested that NY FACE be a regular contributor about health and safety information to their newsletter.

- An article entitled “Baler Safety a Must” was published in the July/August 2005 New York State Retailer—a monthly newsletter of the Retail Council of New York State which went to over 5,000 retailers in NYS. The Retail Council worked closely with the NY FACE program to develop the article that outlined a fatality investigated by the NY FACE program as well as recommendations for helping to prevent fatalities from occurring in the future.

Outcomes/Relevance/Impact

NY FACE has re-contacted many of the companies where investigations have occurred to determine if the report was useful to the company and if any of the recommendations made by NY FACE were feasible or incorporated. Not only were many of the recommendations implemented in the worksite where the fatality occurred, many companies and organizations expanded the implementation of these changes throughout all of their worksites. Pertinent findings of documented reductions in exposure are detailed below:

- Subsequent to a NY FACE investigation where a truck driver was run over by a mobile landfill compactor at a municipal landfill (Case 02NY007), the landfill where the incident occurred instituted a policy requiring all landfill employees and visitors to wear safety vests (one of the report recommendations).

NY FACE also developed a FACE Facts sheet based on the incident. This was disseminated to all 49 municipal landfills throughout NYS with a request that the landfills post the fact sheet on a bulletin board where workers may see it. The NY FACE program was later contacted by a newspaper reporter who informed the program that another landfill had adopted a policy requiring all landfill visitors to wear high visibility safety vests as a direct result of our FACE fact sheet recommendation.

- After the investigation of a machine operator who was caught by an ingoing pinch point on a hot tin coating machine (Case 02NY026), the company installed a barrier guard and interlocked the tinning machine with the guard to prevent workers from contacting the machine after the guard was removed. The company has also required workers to shut down the tinning line

before performing cleaning and has provided employee training and closer supervision to ensure that workers strictly follow the safe machine cleaning procedure. All of these measures had been recommended by NY FACE. Additionally, the company was in the process of installing an engineering control to reduce roller cleaning to help avoid potential injuries.

The company also provided NY FACE with contact information for the Copper and Brass Fabricator Council (CBFC), a national trade association in Washington DC, stating that more companies could benefit from the information provided by the NY FACE program. The CBFC distributed the FACE report on this incident at the Council's semi-annual environmental meeting. Safety and environmental representatives of eight copper and brass manufacturing companies attended the meeting. The eight companies employed from 400 to 2000 workers each in the states of New York, Pennsylvania, Michigan, Ohio, Illinois, Missouri, Mississippi and Arkansas. According to the CBFC representative, the type of the work practice that led to the particular fatal incident investigated by NY FACE (i.e., cleaning rollers without shutting down the machine) was very common in the brass and copper manufacturing trade. The Council believed that the NY FACE report will help raise the council members' awareness of the hazards and promote safe work practice.

- Following the investigation of a machine operator who was run over by a front-end loader at a municipal rock salt stockyard (Case 04NY002), the city Department of General Services (DGS) had designated a staff member to be in charge of developing, implementing and maintaining the department's safety and health programs. The DGS also equipped a new truck with a video camera that allows the operator to view the entire area behind the truck. Both measures were recommended by NY FACE.

- After the investigation of a department store processing manager who was crushed by the hydraulic ram of a cardboard baling machine (Case 04NY013), the company developed and implemented a baler safety program that included all major components recommended by NY FACE. The department store belongs to a retail company that owns approximately 80 department stores in the Northeast. As part of the baler safety program, a facility maintenance group at each of the 80 department stores now inspects balers regularly. The company has developed an audit checklist to include the baler interlock and the other safety features to be inspected during each audit and updated the employee training manual to include more information on baler operating safety. The NY FACE report was also circulated among all corporate upper management staff and was well received.

Following the fatal incident, a NY FACE Facts sheet based on the report was developed. NY FACE worked with the NYS Retail Council to write and disseminate an article based on the NY FACE report and FACE Facts sheet – "Department Store Employee Crushed in a Baling Machine" - in their summer newsletter. The Council is a membership trade association that represents nearly 5,000 stores and affiliated businesses throughout the state.

- Following the investigation of a city employee who was killed when his clothing became entangled by an unguarded Power Take Off (PTO) shaft on a salt truck (Case 05NY007), the DPW implemented a procedure to inspect and certify the equipment being repaired or maintained by the maintenance department before releasing it back to service. The equipment operators were required to perform daily safety checks on the mobile equipment. A standard safety salt truck operating procedure was developed and workers received training. The DPW has still not designated a safety and health person to oversee the Department's safety and health

programs, although NY FACE staff continues to work with the Department to try to get this recommendation implemented. A copy of the tailgate training module was provided to them to assist with employee training on mobile equipment safety.

- Following the investigation of an ironworker who was killed when he was crushed between the elements of a bridge support structure he was dismantling at a bridge construction site (Case 05NY013), the company implemented two of the NY FACE recommendations that were specific to the incident site. These included providing workers with safety and hazard awareness training immediately after the fatal incident, and providing workers with safe access to the work site.

The employer in this incident was a civil and heavy industrial construction company that currently employs approximately 1,800 workers in southern New England and New York State. They also implemented a new company-wide policy change suggested by NY FACE that ensures any modification or change of an original engineering plan has to be evaluated and approved by the company's licensed structural engineer who designed the plan. A form that clearly documents the intended modification is to be signed off by the licensed structural engineer, safety manager, project engineer, site superintendent and foreman before the modification can be executed. The system is intended to eliminate the unapproved modification of the original engineering plan that may subject workers to potential safety hazards.

- NY FACE staff were contacted by a NYS resident who stated that after reviewing our FACE reports on tractor rollovers, he would be installing a ROPS and seat belt on his newly purchased tractor. He requested information from NY FACE as to where to purchase this equipment.

Publications:

None to date.