

## School District No. 22 (Vernon) – 2012 Carbon Neutral Action Report

### Executive Summary

*Our district promotes anti-idling, with 'anti-idling' signs and encourages recycling, reusing, composting and waste reduction programs expansion in schools and sites. In 2008 the Smart Driver Training program was presented to all school bus drivers and continues on an annual basis. This program included participating in the 2009 federally sponsored school bus retro fit program to further update the diesel powered buses. (Note: our instruction is based on driving strategies and techniques to improve fuel economy and to reduce periods of idling. Our district has completed the 2009 federally sponsored school bus retro fit program to further update the diesel powered buses. (Note: our district participated in the 2006 federally sponsored retro fit program for school buses including diesel oxidation catalyst mufflers engine crankcase ventilation system upgrades) bus engine block heaters are controlled by programmable timers that only activate timers on school days and for a time period appropriate to the engine and the temperature. Items such as seat upholstery and sealed window panels are re-used from buses that are out of service. For our school buildings, over the years we have been involved in an energy retro fit program like low flow, light sensors, temperature setbacks, water management, lighting, use of low E paint and use of recycled material where possible. The School District continues to pursue electrical retrofits at schools, as budgets permit, to reduce energy costs. Our operations supervisors have kept up to date through Pro D in attending workshops and conferences on related topics and we have made adjustments and changes on a continual basis. Of note is the computer based energy management system (Orca) with our district being one of the first districts on board with the energy management system. We have Co2 sensors in many locations that turn the fresh air flow on/off according to occupancy as well as door sensors (i.e. If gym doors are wide open, A/C will not come on). For ongoing initiatives appliance replacements will be with Energy Star rated appliances. Carpooling between teachers to our rural school locations continues. Our grounds department supervisors continue reduction of the use of pesticides, and in 2011 our Board passed a new pesticide policy.*

### Overviews

#### Actions Taken to Reduce Greenhouse Gas Emissions in 2012

Our district continues to update the diesel powered buses and to replace buses further to Capital Project approval. We also continue to replace older maintenance fleet vehicles with more fuel effective vehicles and purchased a cube van to replace the five tonne truck for most deliveries within our district.

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## **Operational Changes in 2012**

### **Plans to Continue Reducing Greenhouse Gas Emissions 2012 – 2013**

For ongoing initiatives appliance replacements will be with Energy Star rated appliances. We anticipate there will continue to be carpooling between teachers to our rural school locations. Our grounds department supervisors will be initiating the new Pesticide Policy. With the completion of the new Coldstream Elementary School, LEED Gold, in 2012, reductions have been achieved through power management, sustainability actions, etc. This has led to the greatest reduction in utility consumption in any one year in our school system. Continued reductions will also be through ongoing maintenance of buildings and vehicles and continued staff awareness. We anticipate similar reductions with the completion of the new Vernon Secondary School, also LEED Gold, in 2013.

Our school administrators continue to encourage our students awareness and this is clear in examples that include: secondary school students participation in the BC Hydro School Programs where BC Hydro recognized the students at a public board meeting; and another secondary school student took a leadership role in completing a walking path in the community, receiving public recognition. These actions raise awareness among students and our district to reduce carbon emissions.

The district continues to reduce its aging fleet of school buses and maintenance vehicles resulting in fuel efficient and environmentally friendly vehicles.



Randy Hoffman

Secretary-Treasurer, School District No. 22 (Vernon)

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| Actions Towards Carbon Neutrality   |                     |  |   |            |                          |
|---|---------------------|--|---|------------|--------------------------|
| The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act. |                     |  |   |            |                          |
| Action  | Status              | Steps Taken  | Steps Planned                                   | Start Year | End Year                 |
| Mobile Fuel Combustion (Fleet and other)  |                     |  |   |            |                          |
| Behaviour change program  |                     |  |   |            |                          |
| Provide fleet driver training to reduce fuel use  | Ongoing/In Progress | part of annual bus driver training in-service  | annual pro-d                                    | 2008       | No End Date (Continuous) |
| Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)   | Ongoing/In Progress | signage at all sites   | maintain awareness                              | 2008       | No End Date (Continuous) |
| Encourage carpooling in fleet vehicles  | Ongoing/In Progress | carpool when it makes sense  | maintain current practice                       | 2008       | No End Date (Continuous) |
| Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)   | Not Yet Evaluated   |  |   |            | No End Date (Continuous) |
| Vehicle fuel efficiency   |                     |  |   |            |                          |
| Replace vehicles with more fuel-efficient models  | Ongoing/In Progress | 5 new buses purchased and 2 newer maintenance vans purchased to replace old inefficient vehicles | budget dependant                                | 2009       | No End Date (Continuous) |
| Replace larger vehicles with smaller models according to fleet "right-sizing" principles  | Ongoing/In Progress | purchased 1 cube van to use for smaller deliveries instead of a 5 tonne truck                    | budget dependant                                | 2009       | No End Date (Continuous) |
| Perform regular fleet maintenance to improve fuel-efficiency  | Ongoing/In Progress | part of maintenance program  | maintain current practice                       | 2008       | No End Date (Continuous) |
| Stationary Fuel Combustion, Electricity   |                     |  |   |            |                          |
| Behaviour change program  |                     |  |   |            |                          |
| Help staff reduce personal energy use through ""workstation tune-ups""  | Ongoing/In Progress | part of employee awareness   | ongoing   | 2008       | No End Date (Continuous) |
| Ask staff to unplug electrical equipment or switch off power bars when not in use   | Ongoing/In Progress | part of employee awareness   | ongoing   | 2008       | No End Date (Continuous) |
| Ask staff to unplug electrical equipment or switch off power bars when not in use   | Ongoing/In Progress | part of employee awareness   | ongoing   | 2008       | No End Date (Continuous) |
| Ask staff to close blinds at end of work day to reduce heating/cooling demands  | Ongoing/In Progress | part of employee awareness   | ongoing   | 2008       | No End Date (Continuous) |
| Encourage staff to use air dry setting on dishwashers   | Ongoing/In Progress | part of employee awareness   | ongoing   | 2008       | No End Date (Continuous) |
| Provide tips to staff on saving energy in the office while working outside of regular business hours  | Ongoing/In Progress | part of employee awareness   | ongoing   | 2008       | No End Date (Continuous) |
| Encourage use of stairs instead of elevators  | Ongoing/In Progress | part of employee awareness   | ongoing   | 2008       | No End Date (Continuous) |
| Provide reminders for turning off lights (e.g., signs, stickers, messages)  | Ongoing/In Progress | part of employee awareness   | ongoing   | 2008       | No End Date (Continuous) |
| Promote hot water conservation  | Ongoing/In Progress | part of employee awareness   | ongoing   | 2008       | No End Date (Continuous) |
| IT power management   |                     |  |   |            |                          |
| Install power management software which shuts down computers outside of regular business hours  | Ongoing/In Progress | technology plan in progress  | completion of project late 2013 or by June 2013 | 2012       | 2014                     |
| Implement server virtualization   | Ongoing/In Progress | technology plan in progress  | completion of project late 2013 or by June 2013 | 2012       | 2014                     |
| Apply auto-sleep settings on computer monitors and CPUs   | Ongoing/In          | technology plan in progress  | completion of project late 2013 or by June 2013 | 2012       | 2014                     |

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| Action  | Status              | Steps Taken  | Steps Planned                                   | Start Year | End Year                 |
|   | Progress            |  |   |            |                          |
| Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices as part of a print management strategy   | In Development      | technology plan in progress  | completion of project late 2013 or by June 2013 | 2012       | 2014                     |
| Apply auto-sleep settings on printers, fax machines, and/or multi-function devices  | Ongoing/In Progress | technology plan in progress  | completion of project late 2013 or by June 2013 | 2012       | 2014                     |
| Replace computers with ENERGY STAR models during regular computer upgrades  | Ongoing/In Progress | technology plan in progress  | completion of project late 2013 or by June 2013 | 2012       | 2014                     |
| Leased buildings  |                     |  |   |            |                          |
| Establish energy performance baseline for leased buildings  | Ongoing/In Progress | .  | reduce amount of leased space                   | 2012       | No End Date (Continuous) |
| Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M)   | Ongoing/In Progress | .  | reduce amount of leased space                   | 2012       | No End Date (Continuous) |
| Lease space with commercial interiors performance labelling/certification (e.g., LEED CI)   | Ongoing/In Progress | .  | reduce amount of leased space                   | 2012       | No End Date (Continuous) |
| Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC)  | Ongoing/In Progress | .  | reduce amount of leased space                   | 2012       | No End Date (Continuous) |
| Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations  | Ongoing/In Progress | .  | reduce amount of leased space                   | 2012       | No End Date (Continuous) |
| Owned buildings   |                     |  |   |            |                          |
| Establish energy performance baseline for owned buildings   | Ongoing/In Progress | energy audits done   | ongoing   | 2011       | No End Date (Continuous) |
| Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)  | Ongoing/In Progress | energy audits done   | ongoing   | 2011       | No End Date (Continuous) |
| Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)  | Ongoing/In Progress | new Vernon Secondary School is LEED Gold (completed 2013)                | as new projects are approved                    | 2009       | No End Date (Continuous) |
| Achieve LEED NC Gold certification at a minimum for new construction or major renovations   | Ongoing/In Progress | new Vernon Secondary School is LEED Gold (completed 2013)                | as new projects are approved                    | 2009       | No End Date (Continuous) |
| Perform energy retrofits on existing, owned buildings   | Ongoing/In Progress | new Vernon Secondary School is LEED Gold (completed 2013)                | as new projects are approved                    | 2009       | No End Date (Continuous) |
| Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions   | Ongoing/In Progress | new sites are 410A   | as budget allows                                | 2009       | No End Date (Continuous) |
| Planning/management   |                     |  |   |            |                          |
| Reduce office space (square meters) per employee  | Ongoing/In Progress | new Vernon Secondary School  | as new projects are approved                    | 2008       | No End Date (Continuous) |
| Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)   | Ongoing/In Progress | 60 percent sites have metering system                                    | as budget allows                                | 2008       | No End Date (Continuous) |
| Retrofit details for owned buildings  |                     |  |   |            |                          |
| Upgrade mechanical systems (heating, cooling, ventilation) during retrofits   | In Development      | upgrade as part of Annual Facilities Grant - ongoing boiler replacements | as budget allows                                | 2008       | No End Date (Continuous) |
| Upgrade lighting systems during retrofits   | Ongoing/In Progress | upgrade as part of Annual Facilities Grant - replacing ballasts to T-8   | part of maintenance program                     | 2008       | No End Date (Continuous) |
| Upgrade/adjust control systems during retrofits   | Ongoing/In Progress | upgrade as part of Annual Facilities Grant - replace ballasts to T-8     | plan 1 site per year                            | 2010       | No End Date (Continuous) |
| Improve building insulation (including windows) during retrofits  | Ongoing/In Progress | upgrade as part of Annual Facilities Grant -                             | as budget allows                                | 2010       | No End Date              |



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|---|---------------------|--|---|------------|--------------------------|
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| Action  | Status              | Steps Taken  | Steps Planned   | Start Year | End Year                 |
|   | Progress            |  |   |            | (Continuous)             |
| Supplies (Paper)  |                     |  |   |            |                          |
| Behaviour change program  |                     |  |   |            |                          |
| Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)  | Ongoing/In Progress | some staff are editing electronically  | ongoing = sharepoint implementation   | 2008       | No End Date (Continuous) |
| Encourage staff to hold paperless meetings or presentations (i.e., no handouts)   | Ongoing/In Progress | agendas via e-mail with no paper copies at meetings. Public board meeting agendas posted on district web-site  | continue with current practice  | 2009       | No End Date (Continuous) |
| Electronic media in place of paper  |                     |  |   |            |                          |
| Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)   | Ongoing/In Progress | staff awareness  | ongoing   | 2008       | No End Date (Continuous) |
| Use electronic document library for filing common documents   | Ongoing/In Progress | utilizing shared drives on server  | ongoing   | 2008       | No End Date (Continuous) |
| Switch to an electronic payroll notification system in place of paper pay stubs   | Ongoing/In Progress | 80 percent of staff receiving statements electronically  | continue to encourage staff to receive electronic information   | 2008       | No End Date (Continuous) |
| Other Paper Supplies Actions  |                     |  |   |            |                          |
| schools utilizing automatic phone messaging system (synrevoice) to get messaging to parents instead of sending paper information home   | Ongoing/In Progress | increase usage of this auto dialer system  | continue with current practice  | 2009       | No End Date (Continuous) |
| Paper Type  |                     |  |   |            |                          |
| Purchase 30% post-consumer recycled paper   | Ongoing/In Progress | white recycled paper jamming photocopiers (8.5x11) so not using recycled. Most paper we purchase is 30 percent recycled and all colored paper is 30 percent recycled | we pay a premium to be green and some schools choose to go with the less expensive non-recycled product. We will continue to assess | 2008       | No End Date (Continuous) |
| Printer/document settings   |                     |  |   |            |                          |
| Switch networked printers and photocopiers to automatic double-sided  | Ongoing/In Progress | technology plan in process   | staff awareness ongoing   | 2008       | 2014                     |

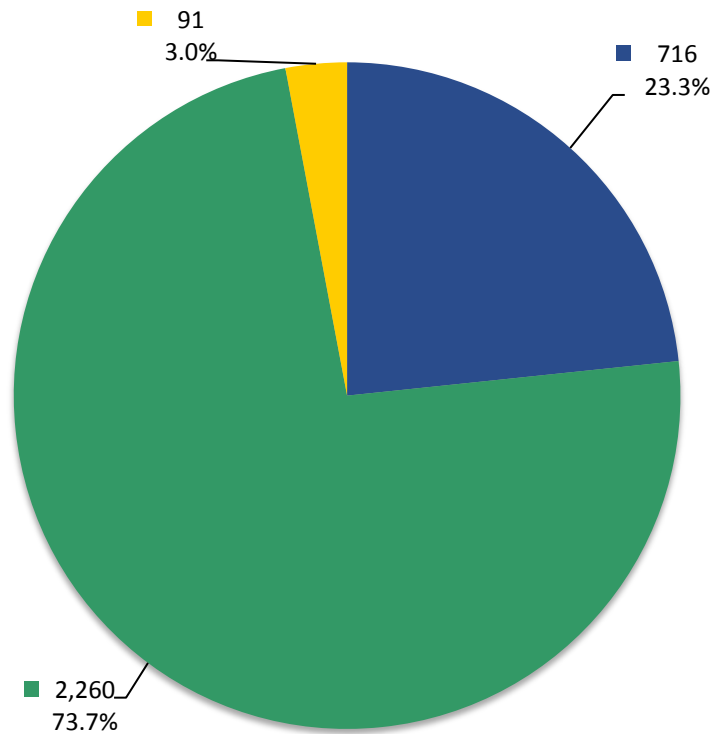
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| Actions to Reduce Provincial Emissions and Improve Sustainability  |                     |   |                            |            |                          |
|--|---------------------|---|----------------------------|------------|--------------------------|
| The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act. Public sector |                     |   |                            |            |                          |
| Action   | Status              | Steps Taken   | Steps Planned              | Start Year | End Year                 |
| Business Travel  |                     |   |                            |            |                          |
| Behaviour change program   |                     |   |                            |            |                          |
| Train staff in web-conferencing  | Ongoing/In Progress | as needed by staff  | ongoing training as needed | 2008       | No End Date (Continuous) |
| Encourage staff to consider virtual attendance/presentation at events where possible   | Ongoing/In Progress | staff awareness   | continue                   | 2008       | No End Date (Continuous) |
| Encourage carpooling to meetings   | Ongoing/In Progress | staff awareness   | continue                   | 2008       | No End Date (Continuous) |
| Policy and budgeting   |                     |   |                            |            |                          |
| Create a low-carbon travel policy or travel reduction goal   | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Virtual meeting technology   |                     |   |                            |            |                          |
| Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)   | In Development      | small percentage installed as needed  | continue                   | 2008       | No End Date (Continuous) |
| Make desktop web-cameras available to staff  | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Install video-conferencing units in meeting rooms or provide mobile video-conferencing units   | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Education, Awareness, and Engagement   |                     |   |                            |            |                          |
| Awards/Recognition   |                     |   |                            |            |                          |
| Establish a sustainability/green awards or recognition program   | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Staff Professional Development   |                     |   |                            |            |                          |
| Support green professional development (e.g., workshops, conferences, training)  | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Include green options in employee performance measurement system   | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Staff awareness/education  |                     |   |                            |            |                          |
| Provide education to staff about the science of climate change   | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Provide education to staff about the conservation of water, energy, and raw materials  | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Provide green tips on staff website or in newsletters  | Ongoing/In Progress | staff awareness. Web-site and e-mails advise you to think about the environment before pringing | ongoing                    | 2010       | No End Date (Continuous) |
| Provide sustainability education during new staff orientation  | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Team-building  |                     |   |                            |            |                          |
| Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement  | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Provide resources and/or dedicated staff to support teams  | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |
| Providing behaviour change education/training to teams (e.g., community-based social marketing)  | Not Yet Evaluated   |   |                            |            | No End Date (Continuous) |

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| Actions to Reduce Provincial Emissions and Improve Sustainability  |                     |   |                              |            |                          |
|--|---------------------|---|------------------------------|------------|--------------------------|
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| Action   | Status              | Steps Taken   | Steps Planned                | Start Year | End Year                 |
| Other Sustainability Actions   |                     |   |                              |            |                          |
| Adaptation to Climate Change   |                     |   |                              |            |                          |
| Assessed whether extreme weather events and/or long term changes in climate will affect the organization's business areas  | Not Yet Evaluated   |   |                              |            | No End Date (Continuous) |
| Integrated considerations of extreme weather events and/or long term changes in climate into the organization's decision making.   | Not Yet Evaluated   |   |                              |            | No End Date (Continuous) |
| Building construction, renovation  |                     |   |                              |            |                          |
| Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities  | Ongoing/In Progress | re-use material such as pavement where possible   | continue with practice       | 2009       | No End Date (Continuous) |
| Incorporate lifecycle costing into new construction or renovations   | Not Yet Evaluated   |   |                              |            | No End Date (Continuous) |
| Commuting to and from home   |                     |   |                              |            |                          |
| Introduce telework/work from home policy   | Not Yet Evaluated   |   |                              |            | No End Date (Continuous) |
| Encourage commuting by foot, bicycle, carpool or public transit  | Ongoing/In Progress | part of City of Vernon transportation and walking school bus program  | current program              | 2010       | No End Date (Continuous) |
| Provide shower or locker facilities for staff/students who commute by foot or by bicycle   | Ongoing/In Progress | available at most sites   | as budget allows             | 2008       | No End Date (Continuous) |
| Provide secure bicycle storage   | Ongoing/In Progress | available at most sites   | as budget allows             | 2009       | No End Date (Continuous) |
| Procurement (non-paper supplies)   |                     |   |                              |            |                          |
| Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)   | Ongoing/In Progress | staff awareness; re-cycle toner cartridges, re-use binders, etc.  | district practice            | 2008       | No End Date (Continuous) |
| Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)  | Not Yet Evaluated   |   |                              |            | No End Date (Continuous) |
| Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags   | Ongoing/In Progress | use green products where applicable as part of our ongoing custodial services   | continue with practice       | 2008       | No End Date (Continuous) |
| Waste reduction/diversion  |                     |   |                              |            |                          |
| Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities   | Not Yet Evaluated   |   |                              |            | No End Date (Continuous) |
| Implement a hazardous waste reduction and disposal strategy  | Ongoing/In Progress | we have PC bin, hazardous waste disposal  | Annual maintenance procedure | 2008       | No End Date (Continuous) |
| Water conservation   |                     |   |                              |            |                          |
| Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models   | Ongoing/In Progress | plumbing (water) upgrades to one elementary schoolk as part of AFG maintenance program (use of sentinel systems for irrigation) | as budget allows             | 2009       | No End Date (Continuous) |
| Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features   | Ongoing/In Progress | new VSS school - completed 2013   | as budget allows             | 2008       | No End Date (Continuous) |
| Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)  | Ongoing/In Progress | new VSS school, completed 2013. Also completed board office site complex for storm water.                                       | as budget allows             | 2008       | No End Date (Continuous) |

**School District 22 - Vernon  
Greenhouse Gas Emissions by Source  
for the 2012 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 3,067**

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)

**Offsets Applied to Become Carbon Neutral in 2012 (Generated May 28, 2013 3:36 PM)**

Total offsets required: **2,535**. Total offset investment: **\$63,375**. Emissions which do not require offsets: **532** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

\*\* Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.