

WORKING AT ONTARIO POWER GENERATION AS A

NUCLEAR OPERATOR

A REALISTIC JOB PREVIEW

GENERATE

A FUTURE OF POSSIBILITIES 

mypowercareer.com

ONTARIOPOWER
GENERATION

BECOMING A NUCLEAR OPERATOR

Dear Applicant,

Thank you for your interest in applying to the Nuclear Operator (NO) position. It is important for us at Ontario Power Generation (OPG) to provide you with a complete description of what you can realistically expect to experience as a NO. This document will provide you with a detailed and realistic preview of the job, i.e., will provide a **Realistic Job Preview (RJP)**.

The role of the NO carries with it unique rewards and challenges. In this document you will find **up-to-date** NO job information that pertains to **all aspects of the job**, including information about the both the **positive** and the **negative** aspects. Our goals in providing you with this RJP are as follows:

- **Achieving a better fit between the applicant and the job** – You can review information in this document to determine whether you are willing and/or able to cope with the job's demands, and whether you will find this job satisfying. We hope that the information in this document will help you make an informed decision about whether this job is right for you.
- **Having applicants hold more realistic expectations of the job** – Our hope is that this information will help you form accurate expectations as to what this job will involve, and that such understanding will foster a mutually-satisfying working relationship between you and OPG.

We emphasize the need for you to **read this document carefully** and to consider the entire scope of the NO job **before applying**.

CONTENTS OF THE REALISTIC JOB PREVIEW

All information contained in this document is based on a detailed analysis of the job and has been collected directly from individuals who are currently working as NOs. This RJP includes the following:

1. **OVERVIEW OF THE HIRING PROCESS** – describes the eligibility criteria and the selection process.
2. **LIFE AS A NEW NUCLEAR OPERATOR** – describes information important to being a new NO (e.g., job streams, training, and probationary period).
3. **OVERVIEW OF THE NUCLEAR OPERATOR JOB** – provides a description of the job duties, level of responsibility and the amount of work.
4. **TRAINING REQUIREMENTS AND CAREER OPPORTUNITIES** – provides an overview of the on-going certification requirements, and professional growth and advancement opportunities available within OPG.
5. **PAY, BENEFITS AND REWARDS** – describes how and when pay increments and promotions are decided, and the quality of the pay and benefits.

6. **SUPERVISION** – provides a description of the type and amount of supervision that can be expected on the job.
7. **WORKING CONDITIONS** – describes the physical conditions within which a NO must work.
8. **REWARDS AND CHALLENGES OF BEING A NUCLEAR OPERATOR** – describes the positive and negative aspects of the job (based on the opinions of current NOs).
9. **CRITICAL SUCCESS FACTORS** – provides a list of the skills you need or criteria you have to meet to be successful and satisfied as a NO.
10. **OPG CONTACT INFORMATION**

1. OVERVIEW OF THE HIRING PROCESS

"What can I expect when applying for the job?"

STEP 1: When a vacancy is advertised, all applicants must load their profile onto the OPG recruitment website and submit an application online.

STEP 2: All applicants will be reviewed to determine if they meet the base criteria.

To be considered, you'll need one of the following:

- A Grade 12 diploma from an Ontario Secondary School that includes Grade 12-U (university preparation) mathematics, physics or chemistry, and English, or Ontario Academic Course (OAC) credits in mathematics, physics or chemistry, and English as a minimum.
- An Ontario Secondary School (or equivalent) diploma plus completion of a College Technician or Technologist diploma in a related program is preferred. e.g., Power Engineering, Marine Engineering, etc.

Applicants must be eligible to work in Canada.

STEP 3: Testing

- Qualified applicants will be invited to a testing session (2-3.5 hours long), where they will write a series of paper and pencil tests assessing areas such as critical reasoning, English skills, mechanical aptitude, and safety consciousness.
- Should you wish to practice some ability tests, please visit the SHL website at: http://www.shldirect.com/practice_tests.html
- Candidates need to pass these tests in accordance with the minimum criteria required for the job.

STEP 4: Interview – Those candidates who are successful at the testing phase will be invited to attend a structured, behaviour- and technical-based interview.

- The interview will consist of a series of job-related, structured questions. With structured questions, all candidates are asked the same questions and evaluated against the same job-related criteria as the other candidates.

- The questions are behaviour-based, i.e., candidates are asked to provide examples of how they have dealt with various job-related or life scenarios in the past to demonstrate that they have the relevant experience and display the appropriate behaviours.
- The questions that are technical-based explore the candidates' knowledge of science fundamentals and real world applications.
- The interview will be approximately 2 hours in length.

STEP 5: Short-listed candidates will be notified of any further selection requirements.

Such requirements include:

- Security checks: Applicants cannot have any convictions under the Criminal Code.
- Reference checks: Applicants' references will be checked.

STEP 6: Medical requirements

- Applicants must complete a medical information questionnaire and have an examination completed by a personal physician.

2. LIFE AS A NEW NUCLEAR OPERATOR

"What happens when I first start working at OPG?"

The following is a brief overview of the various specializations within the NO job family, of the orientation/ training process, and of the probationary period.

2.1 NUCLEAR OPERATOR SPECIALIZATION STREAMS

There are several specializations within the NO job family, called "streams". The Pickering facilities (Pickering A and B) have three streams (see Table 1). The Darlington facility has four streams (see Table 1). Each new NO is assigned to one of these streams after being hired.

TABLE 1

Facility	Stream 1	Stream 2	Stream 3	Stream 4
Pickering A and B	Generating Units	*Common Services	Fuel Handling	
Darlington	Generating Units	*Unit 0 (Zero)	Fuel Handling	Tritium Removal Facility

*Note: Common Services and Unit 0 are similar jobs; any operators working at or transferring to the Nuclear Waste Management facility at Pickering or Darlington would conduct other specialty job duties.

Upon being selected into the NO job, new NOs can express a preference for the stream for which they would like to be certified. Preferences will be taken into consideration when management makes their decisions. However, please note that assignment to the new NO's preferred stream cannot be guaranteed. In this document you will read a description of those aspects of the job that are common across all streams. When there are important differences between streams, those differences are **bolded** to bring them to your attention. You can use the information about the different streams to help you identify your preferred stream.

2.2 ORIENTATION/TRAINING

Upon being selected by OPG, candidates begin general, followed by stream-specific, NO orientation and training. Successful training performance requires the ability to be self-directed in one's training, to learn within short-time frames, and to absorb and relate classroom information to its practical application in the station.

2.2.1 TRAINING FORMAT AND CONTENT

Nuclear Operators are required to complete extensive classroom and some computer-based training. Training focuses on both the aspects of the job that are common across all NO streams, and those that are specific to a particular stream. Periods of classroom courses are balanced with on-shift training. During on-shift training the trainee will work under the guidance of an experienced operator.

2.2.2 TRAINING LENGTH

NOs typically take about 8-12 months to complete common training. Depending on the stream assignment, it takes a further 6-12 month period to become qualified in the assigned stream. Combined, full training can take up to two years to complete.

2.2.3 TESTING

Trainees are tested at every phase of the training program and at the end of the training period.

- Classroom knowledge is tested using exams.
- Applied knowledge is tested using Job Performance Measures (e.g., demonstrating proficiency in the field environment).
- A NO is considered to be "stream qualified" upon successful completion of comprehensive examinations, a series of Job Performance Measures and a competency assessment by their field supervisor.

2.3 PROBATIONARY PERIOD

The first three months of training are considered to be a "probationary period" for the NO. However, the probationary period may be extended to six months, if required. Mandatory union coverage and access to OPG benefits are provided during this period. Pension plan enrolment begins upon completion of the probationary period. The Trainee should look upon their whole training period as a probationary period because they will be evaluated every step of the way and beyond.

3. OVERVIEW OF THE JOB

"What is the job?"

Below is a broad description of the duties and other characteristics (e.g., work schedule, work load) of a NO's job. This overview is not meant to be exhaustive in its description; rather, the duties and characteristics described provide a summary of some of the key aspects of the NO job.

3.1 JOB DUTIES

Below are some of the duties carried out by NO's.

3.1.1 SURVEILLANCE

A significant portion of a NO's duties involve performing rounds of their designated area within the plant to check the status of equipment and systems (e.g., pumps, fans, motors, gauges). This type of task requires NOs to detect and assess problems, and provide detailed

information to assist Maintenance in repairing equipment (e.g., monitor system pressure, temperatures, water levels, check for leaks and check for the integrity of the equipment).

While these tasks can be repetitive, they are important and require a specific skill set. Effective monitoring requires a high degree of precision, attention to detail and comfort with mechanical and electrical devices. Upon detecting a problem, a NO notifies his or her supervisor and documents the deficiency based on standard operating procedures.

3.1.2 HOUSEKEEPING AND DOCUMENTATION

Several hours in the day might be required to complete routine maintenance of equipment e.g., cleaning equipment, topping up oil levels tidying of assigned work area. Records of these duties are generated by activities such as initiating Work Requests and Material Requests, keeping Logs, and documenting corrections. Computer proficiency is required to complete the majority of these documentation tasks.

3.1.3 PROACTIVE AND REACTIVE SAFETY CONSCIOUSNESS

Operators are required to adhere to safety procedures at all times to proactively prevent workplace accidents, and protect both their own safety and the safety of others. Situations may arise where a problem, though not serious, would require immediate action to isolate and contain the problem. Corrective actions required are typically quite simple, such as mopping a minor leak or isolating the faulty equipment. Effective corrective action requires familiarity with, and strict application of, the required safety procedures. Protective equipment and clothing are worn at all times to minimize the chances of exposure to hazardous materials (e.g., chemical or minimizing any radiation exposure).

3.1.4 TESTING AND SAMPLING

Frequently, NOs will be responsible for assisting with and testing the functionality of equipment.

- **Example:** Testing may involve local or remote manipulation of equipment like valves and the start-up/shut down of fans and pumps to simulate certain operating conditions or duty rotation of equipment. If deficiencies are identified, "Work Requests" need to be filed so Maintenance can repair the equipment.
- **Example:** Operators and chemical laboratory staff are involved in drawing samples. In some cases, after chemical technicians have conducted appropriate analyses, NOs may be required to initiate corrective action, such as adding chemicals to maintain system specifications.

3.1.5 PHYSICALLY INTENSIVE DUTIES

There are a number of physical tasks that are common to all NO streams. Other physical tasks are stream-specific. For instance, the primary responsibility of the **Fuel Handlers** is to receive and load fuel into the new fuel loading mechanism. Remote operation of tools is used to move and store fuel that has been used in the reactor. This duty is unique to this stream of work. Although Fuel Handlers have direct contact with new fuel, risk from hazardous exposure is minimized because operators wear appropriate protection and are kept away from areas where elevated hazardous conditions exist.

Tritium Removal Facility Operators are frequently required to move heavy drums with a drum cart, moving equipment and preparing shipments for external use of product. They may be required to lift objects that weigh between 40 and 50lbs (i.e. a full pail of water)

3.2 JOB CHARACTERISTICS

Below are other important characteristics of the NO job.

3.2.1 SCHEDULE

There are several shifts at OPG; 8-hour shifts, 10-hour shifts, and rotating 12-hour shifts. NOs must be willing to do shift work and be flexible in their availability.

- Most NOs work in rotating 12-hour shifts that are scheduled from 8 a.m. to 8 p.m. or 8 p.m. to 8 a.m. Some 8-hour/10-hour "day" shifts may also be required. Everyone is required to work weekdays, weekends and statutory holidays, as well as both day shifts and night shifts.
- A typical 12-hour shift includes 3 breaks and 2 lunch periods which are paid.
- It may be required of operators to work an extra 15-20 minutes at the end of each shift. The extra time is necessary to pass on an update to the next NO about the area of responsibility status.
- Schedules are set one year in advance and are balanced over the course of the year to average 40 hours per week. Typically, a period of two to three day shifts or night shifts are followed by two to three days off.

3.2.1 VARIETY

Some of the Operator duties involve repetitive tasks, but there is almost always variety. A NO's typical day includes:

- turnover;
- pre-job brief;
- rounds and routines;
- equipment testing;
- work protection application;
- documentation activities;
- post-job brief; and
- turnover.

However, there are some differences in job variety across the various streams.

- Relative to other streams, the greatest variety is found in the **Generating Unit stream**. Opportunities for hands-on activities are moderate because the systems are highly automated during normal operation. During Outages, the physical demands and variety are extensive. The Generating Unit stream requires the greatest number of systems to be controlled.
- On the other hand, the **Fuel Handling** stream allows for more hands-on tasks, but has less variety due to the smaller number of systems they control.
- The **Common Services/Unit-O** or **TRF** streams provide a degree of variety that falls in between that of the Fuel Handling and Generating Unit streams. If the degree of variety on the job is important to you as a new NO, you should give consideration to the above information when deciding on which stream you would prefer.

3.2.2 DISCRETION AND RESPONSIBILITY

Operators are responsible for the safety of personnel, the plant, the site and the community. As such, strict adherence to policies and procedures is required at all times. There is little discretion in the manner in which tasks get carried out.

3.2.3 CO-WORKERS

NOs work alone when performing rounds and routines with the exception of a trainee shadowing them. Most other work is done in pairs where safety precautions deem it necessary or physical assistance is required.

3.2.4 WORKLOAD

Operators find the workload to be very manageable. Operators are assigned a set of tasks to complete by the end of the shift but may complete the tasks at their own pace, pending workload.

3.2.5 WORKPLACE ACCOMODATIONS

Alternate work arrangement policies are in place for women who are pregnant or for men and women with immediate plans to conceive children. Alternate work arrangements are such that they minimize the chances of exposure to radiation. Also, when problems arise that compromise an individual's ability to do shift work (e.g., a medical condition), case-by-case evaluation is completed in consultation with trained medical staff in our internal wellness department. Detailed policy information can be made available by contacting an OPG representative, or once you begin working at OPG.

4. TRAINING REQUIREMENTS & CAREER OPPORTUNITIES

"Do I need to keep learning? And, where can I go from here?"

4.1 CONTINUOUS LEARNING REQUIREMENTS

Qualifications need to be renewed or refreshed continuously, depending on the task and stream. Qualifications can also be upgraded to broaden one's skill set. NOs will need to take an active role in monitoring their re-qualification needs (e.g., they will need to monitor and request training when qualifications are close to expiring or have expired).

4.2 CAREER OPPORTUNITIES

Individuals can move to different positions at the same level in the organization ("lateral move") or can move to higher positions at OPG ("vertical move").

- Lateral moves typically involve obtaining a position in one of the other NO streams or moving elsewhere in the organization to non-Operator positions. Such moves will require retraining.
- NOs can move vertically into various supervisory positions, such as Supervising Nuclear Operator (SNO) positions or Field Shift-Operating Supervisor (FSOS) positions. Interested individuals go through a selection process in which the behaviours, qualifications and seniority of candidates are considered.
- If operators would like to be considered for Authorized Nuclear Operator (ANO) positions or Certified U-0 Control Room Operator positions, working in the Generating Units or Unit-0 stream provides work opportunities most compatible with meeting that goal.

5. PAY, BENEFITS AND REWARDS

"Is it a well-paid job?"

5.1 WAGES AND BENEFITS

Based on the collective agreement, both NO wages and benefits are very competitive and satisfying. It takes approximately eight years to qualify for the maximum pay rate (i.e., the

top step in the pay scale for the NO job). Pay progression occurs annually. Economic increases are negotiated by the union. For those who have the skills, experience and ambition, there may be opportunity to progress to the higher positions prior to achieving the maximum pay rate.

6. SUPERVISION

"How much supervision will I receive?"

6.1 Supervision

Supervising Nuclear Operators and Field Shift Operating Supervisors are easily accessible at all times (e.g., via phone, radio or in-person), however, they do not constantly monitor the work of NOs. Operators are provided with a "pre-job" briefing; a brief meeting at the beginning of the shift detailing the activities requiring completion on the shift and any hazards associated with the work during that shift. With some exceptions, most of the time operators can complete the work at their own pace.

7. WORKING CONDITIONS

"What is the physical work environment like?"

7.1 Working Conditions

Below are details about the typical working conditions for NOs.

- NOs work indoors for the majority of their shift, in typically warm and dry conditions under artificial light. The exceptions to this are the **Common Services/Unit 0 Operators**, who may work indoors and/or outdoors.
- NOs may have to crawl into tight spaces, work in extreme temperatures and work in areas with high noise levels. All operators will be working at significant heights (e.g., working on floors with gratings that have 30 feet drops under the gratings and working from elevated platforms). **Unit 0 operators** working in the pump house/screen house and sewage treatment facility will have to also deal with strong odours.
- NOs will be on their feet for the majority of their day, moving through large portions of the plant. Surveillance work requires walking around the Powerhouse or other support buildings, and climbing ladders and stairs. An Operator on rounds and routines could expect to walk 8-12 kms per 12 hour shift.
- NOs work with equipment and/or containers that contain dangerous materials (e.g., radioactive materials). However, hazardous materials are contained and highly monitored, minimizing threat.
- NOs wear safety equipment and clothing at all times, and are required to wear additional/extra protective gear depending on the material being handled. Some of the equipment and clothing can be heavy or feel restrictive (e.g., plastic suits, respirators). Operators should be comfortable being restricted in this manner, sometimes for extended periods.
- OPG has implemented highly secure locker room facilities, separated for men and women. Note that most NOs may be required to change into or out of their safety clothing frequently. Individuals will need to be/become comfortable disrobing in front

of their same-sex colleagues because of non-partitioned same-sex locker room facilities.

- NOs cannot leave the protected plant area during their shift (e.g., leaving the plant site for lunch), as they must be available for response in case of emergency.

8. REWARDS AND CHALLENGES OF BEING A NUCLEAR OPERATOR

"What do other NOs really think about the job?"

8.1 REWARDING ASPECTS

The NO position has some interesting and desirable aspects.

8.1.1 SAFETY CULTURE

OPG is highly safety conscious. Such a safety culture reduces the potential for any serious accidents.

8.1.2 PAY

NOs find that OPG wages and benefits are competitive and very satisfactory.

8.1.3 JOB SECURITY

The amount of resources dedicated to training NOs makes them a valuable resource at OPG. As a result, NOs feel secure in their jobs.

8.1.4 WORKLOAD AND PACE

The pace isn't highly demanding or rushed. Mandatory overtime work is not required often. As such, the work pace is very appropriate to the workload.

8.2 CHALLENGING OR UNAPPEALING ASPECTS

As with any job, there are aspects of the job that are less desirable or even negative in some cases, or have aspects that are challenging to manage.

8.2.1 SHIFT WORK

Switching between day and night shift can be both physically challenging and very disruptive to one's personal life. A lot of time is spent physically recovering between shifts. Working weekends can also be difficult. It helps that schedules are set one year in advance, providing plenty of advance notice.

8.2.2 LACK OF VARIETY

Some tasks are repetitive and monotonous, lacking in variety or challenge. The NO job is often restricted to problem detection rather than problem solving.

8.2.3 TRAINING

There can be delays in getting re-qualified because of labour shortages or because too many people need to be trained. Such delays can be frustrating.

8.2.4 CHANGES SLOW TO INSTITUTE

With a large organization such as OPG, sometimes it takes a long time to get equipment fixed or to institute changes. These delays can be frustrating.

9. CRITICAL SUCCESS FACTORS

"What does it take to be a good NO?"

This RJP summarizes the most important aspects of the NO job. Review the following list of factors important for **success and satisfaction** as a NO. Use the list as a self-assessment guide to think about how well your skills and capabilities match those necessary to be successful at the NO job.

I can...

- Direct my own learning (i.e., study independently during training)
- Accept coaching about performance and make the required changes to be successful
- Stay focused and attentive when doing repetitive tasks
- Follow strict policies and procedures
- Work with minimal supervision
- Handle rotating shift-work
- Stay alert, even during late night shifts

I am...

- Comfortable working in potentially radioactive contaminated areas or working with Radiation Protection equipment (plastic suits, respirators) and Personal Protection equipment (hardhats, footwear, hearing protection, gloves)
- Interested in the technical functioning of mechanical and electrical equipment
- Able to look at equipment and suggest what needs to be done to repair it
- Detail-oriented
- A conservative and methodical decision-maker

I will...

- Be able to perform repetitive work
- Not mind mostly detecting problems but not necessarily solving them
- STOP if I'm unsure or need help
- Be safety conscious

10. OPG CONTACT INFORMATION

"How can I get my questions answered?"

For further information or to contact OPG, please consult OPG's recruitment Web site at: www.mypowercareer.com.

CLOSING REMARKS

In this document, we have attempted to provide you with BASIC information about the NO position i.e., information that is **broad** in its breadth of coverage, **accurate** in its depiction of the job, **specific** to the NO job and **important** to being satisfied in this position. It is based on **credible** information gathered directly from current NOs.

We hope this information has been useful in helping you decide whether you would like to submit an application to OPG for this position.