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Career Progression of Junior Professional Officers

Susan E. Pepper

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Career Progression of Junior Professional Officers

Susan E. Pepper, Joseph Carbonaro, Barbara Hoffheins, and Tanya Collins
Brookhaven National Laboratory

Abstract

The U.S. Support Program to IAEA Safeguards (USSP) has funded more than 25 Junior Professional Officer (JPO) positions in the IAEA Department of Safeguards since 2005. JPOs are college graduates with zero to two years' work experience who work alongside experienced IAEA staff members for one to two years and assist with basic, yet essential work while obtaining valuable experience. They contribute to equipment development, testing, integration, open source information collection and analysis, and software and database development. This paper will study the trends in career progression for the JPOs who have completed assignments with the IAEA in the Department of Safeguards. Brookhaven National Laboratory, in its role in managing the USSP, has compiled information that can be analyzed for this purpose.

Introduction

Ten years ago, in 2005, the United States entered into an agreement with the International Atomic Energy Agency (IAEA) for the establishment of a Junior Professional Officer (JPO) program. JPOs are early career professionals with recent university degrees and less than two years of professional work experience. JPOs must be no older than 32 years of age on their first day of work. Those having no work experience enter the IAEA at the P1 level, and those having one or two years' experience are hired at the P2 level.[i] They can be assigned to any of the IAEA's six Departments. The U.S. Support Program to IAEA Safeguards (USSP) provides funding for assignments in the IAEA's Department of Safeguards through the Program of Technical Assistance to IAEA Safeguards (POTAS). The National Nuclear Security Administration's (NNSA's) Office of International Nuclear Safeguards (NA-241) and the Department of State's High Priority Safeguards Projects collaborate with the USSP to provide support for specific assignments that align with their programmatic goals.

The United States has found JPO positions to be excellent investments for human capital development. As compared to cost free experts, who are assigned to positions at the IAEA in mid- to late-career, JPOs potentially have many more years to contribute to the field of international safeguards and the experience they gain through a JPO assignment can be applied throughout their careers. The benefits of the JPO program have been addressed previously.[ii] The objective of this paper is to study the effect of IAEA JPO positions on the career progression

of early career safeguards professionals, and this paper will show how JPO assignments are an important element of the international safeguards career ladder.

From 2002 to 2006, the USSP sponsored interns in the Department of Safeguards. The interns, who were students or recent graduates, performed basic, yet essential tasks to free experienced staff members to complete more complex work. For administrative reasons, the internship program ended in 2006 and was replaced by the JPO program. The interns had assignments and responsibilities that were very similar to those of the JPOs, but interns were limited to one year and JPOs are limited in most cases to two years.[iii]

Methods and Sources of Data:

The study is based in part on existing data. In 2011 the Next Generation Safeguards Initiative (NGSI) sponsored intern Jessica Cruz at Brookhaven National Laboratory (BNL). Cruz conducted a survey of USSP JPOs and presented the results at the INMM annual meeting in 2012. This was a detailed survey that yielded data regarding the experiences of JPOs before, during and after their assignments. In late 2014/early 2015 BNL's International Safeguards Project Office (ISPO) conducted a customer service survey which was distributed to current and former cost free experts and JPOs. While the surveys were not conducted and records were not compiled with the intention of studying career progression, some of the information could be applied for that purpose. Where additional data was needed, ISPO's recruitment and project management records were used. ISPO has records of JPO assignments that started after Cruz' survey was completed and has been able to track the careers of most JPOs following the completion of their IAEA assignments. Where necessary, the authors used personal communication to obtain missing data.

Analysis of Data

Since 2005 the USSP has sponsored 35 JPOs. Of these 27 JPOs have completed assignments, seven are currently serving in assignments in the IAEA Department of Safeguards and one is waiting to begin his assignment.

Figure 1 shows the number of JPOs that worked in each calendar year. The International Safeguards Project Office (ISPO) recruits JPOs for specific assignments requested by the IAEA Department of Safeguards.

JPOs have entered the IAEA with bachelor's, master's, Juris Doctor and PhD degrees and graduate certificates. Figure 2 shows the distribution of degrees for the 35 USSP-sponsored JPOs. Twenty-six, or almost 75%, of the JPOs entered with Master's degrees.

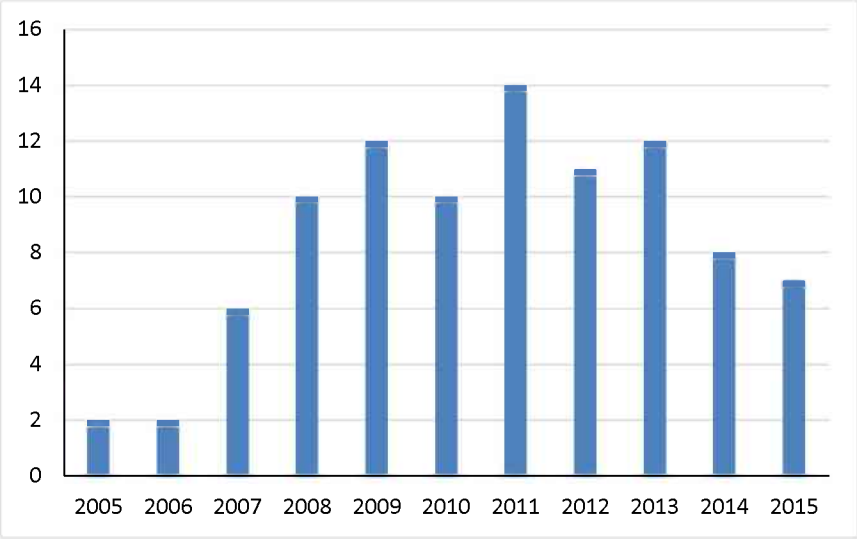

Figure 1: The number of USSP-sponsored JPOs working in the Department of Safeguards in each year of the JPO program

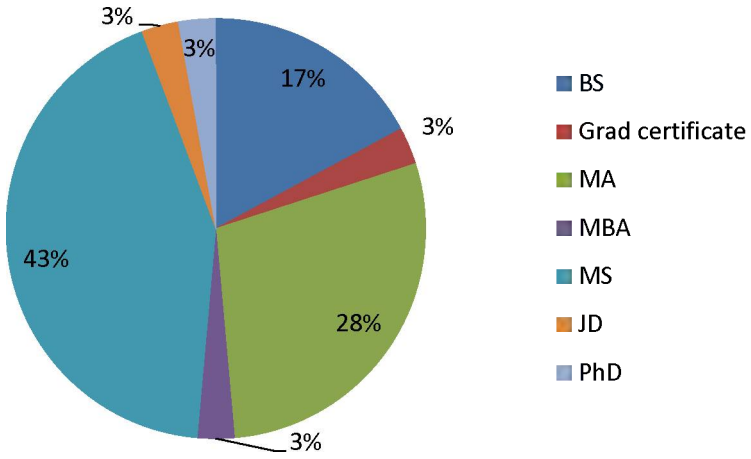

Figure 2: Distribution of degrees held by U.S. JPOs in the Department of Safeguards

Figure 3 shows the distribution of educational backgrounds of the USSP JPOs. The majority of the JPOs studied nuclear engineering (9 individuals) or political science and international studies, which includes international affairs, international relations, and European studies (13 individuals). Twelve of the JPOs with international studies degrees and two with technical degrees (Earth Science and Chemistry) were assigned to open source information collection and analysis.

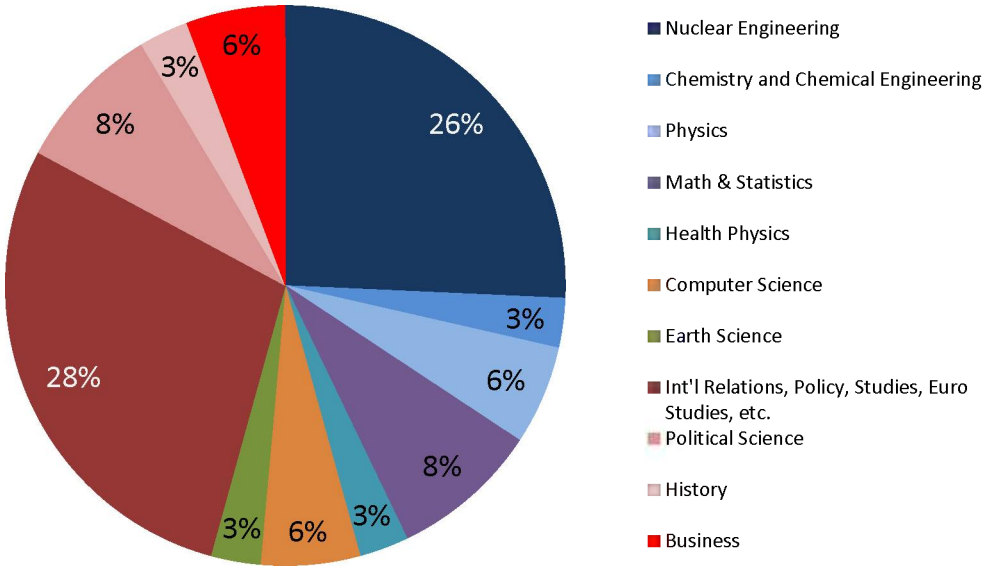

Figure 3: Primary field of education of USSP JPOs

A surprising finding relates to the activity of the JPO prior to beginning their JPO assignment. Because JPOs do not require any work experience, they can be recruited directly from college or graduate school. However, the overwhelming majority were recruited from a job. Twenty-eight of the 35 JPOs were working when selected for their JPO position. Of the seven that were not working, three were in college and four held internships. Figure 4 is a graphical depiction of this data.

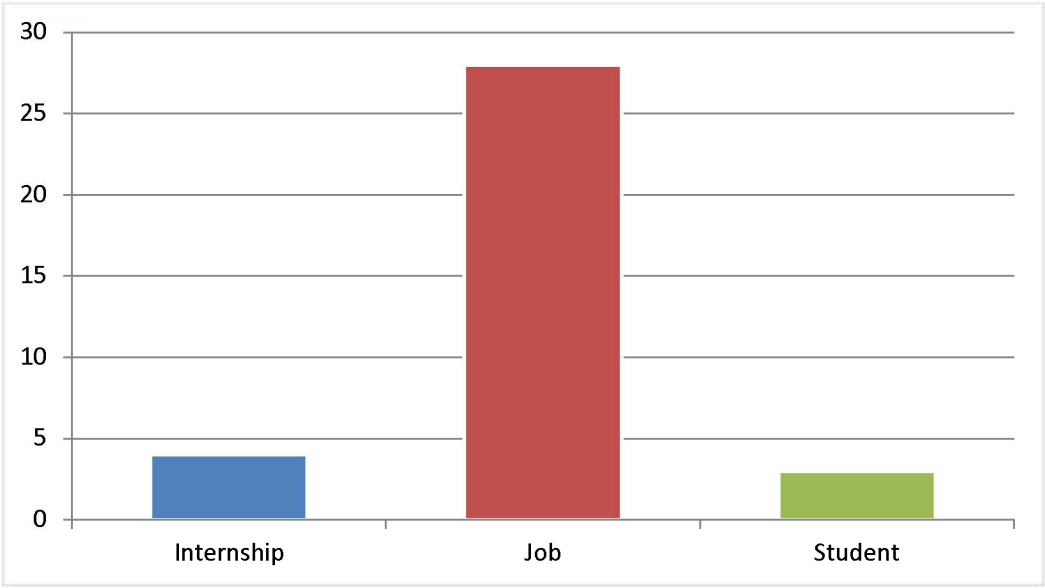

Figure 4: Activity Immediately Preceding the JPO Assignment

The IAEA has requested JPOs for open source information collection and analysis, remote monitoring, unattended monitoring systems, technology planning, nondestructive assay, performance monitoring, statistics, legal, surveillance and software development. Figure 5 shows the distribution of assignments of the JPOs while at the IAEA. The USSP has sponsored the most JPOs in the area of open source information collection and analysis (14 individuals), which tends to favor candidates with backgrounds in political science and international studies. The concentration in this area is due to the importance of JPOs to the collection of open source information. Collection is the foundation of the IAEA's open source information program, and the USSP has been committed to ensuring that the IAEA has sufficient human resources in this area since the IAEA adopted open source as a technical measure under Programme 93+2. However, excepting the legal and performance monitoring JPOs, the remainder of the assignments placed candidates with technical backgrounds (19 individuals) and JPO composition in technical support areas has significantly increased in the last several years. Overall, more JPOs have been placed in technical assignments than in the information area.

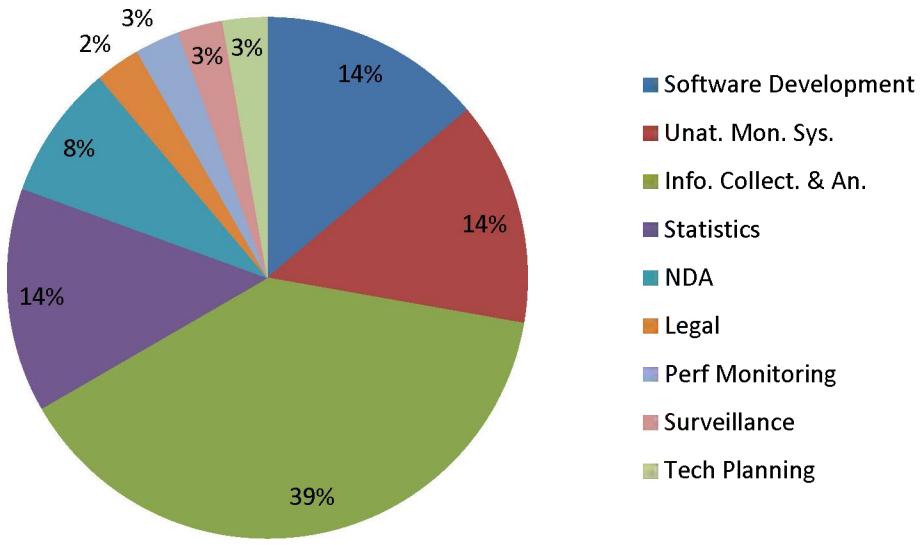

Figure 5: JPO Assignments in the Department of Safeguards

The gender distribution of the U.S. JPOs is 21 males and 14 females. There has only been one JPO that was not a U.S. citizen and one that had dual citizenship. Twenty-seven of the successful candidates spent two years working in the Department of Safeguards as JPOs. Of the remainder, three were able to negotiate longer assignments, and five had assignments ranging from 12 to 18 months. Of the assignments that were shorter than two years, one ended when the JPO was hired by the IAEA, three wanted to leave for professional opportunities, and one was limited to a one year assignment by the USSP.

Data regarding the employment of JPOs immediately following their JPO assignment is provided in Figure 6. Eleven former JPOs have been hired by the IAEA as regular staff or in fixed-term temporary assignments. The national laboratories and other international organizations are the second and third, respectively, most common follow-on employer of JPOs. When one looks at the second employer after the JPO position, for those former JPOs who changed jobs again in the time since they left the IAEA, it can be seen that there is some movement between IAEA and U.S. national laboratory employment.

Only two JPOs experienced an extended period of unemployment after their JPO assignment was completed. One of these was hired by a U.S. government agency. The other is looking for employment outside of the safeguards field. ISPO has always helped cost free experts and JPOs find employment following their IAEA assignments. In 2014, ISPO formalized the process for this assistance by creating and maintaining a repatriation list that is shared with members of the interagency Subgroup on Safeguards Technical Support, which provides oversight for the USSP. This ensures that the federal government is aware of those who are repatriating and that its representatives can help find follow-on employment that makes use of the experience gained during the IAEA assignment.

In July 2015, the number of former JPOs working in the IAEA Department of Safeguards is nine, more than 25% of the JPO sponsored by the USSP since 2005. Eight of these are regular staff in fixed-term posts subject to geographical distribution and eight are employed under their U.S. citizenship. The former JPOs account for more than 10% of the number of U.S. citizens employed in the IAEA Department of Safeguards in regular staff, fixed-term posts subject to geographical distribution. This data shows that the JPO program is an important pathway for introducing highly qualified individuals to the IAEA workforce.

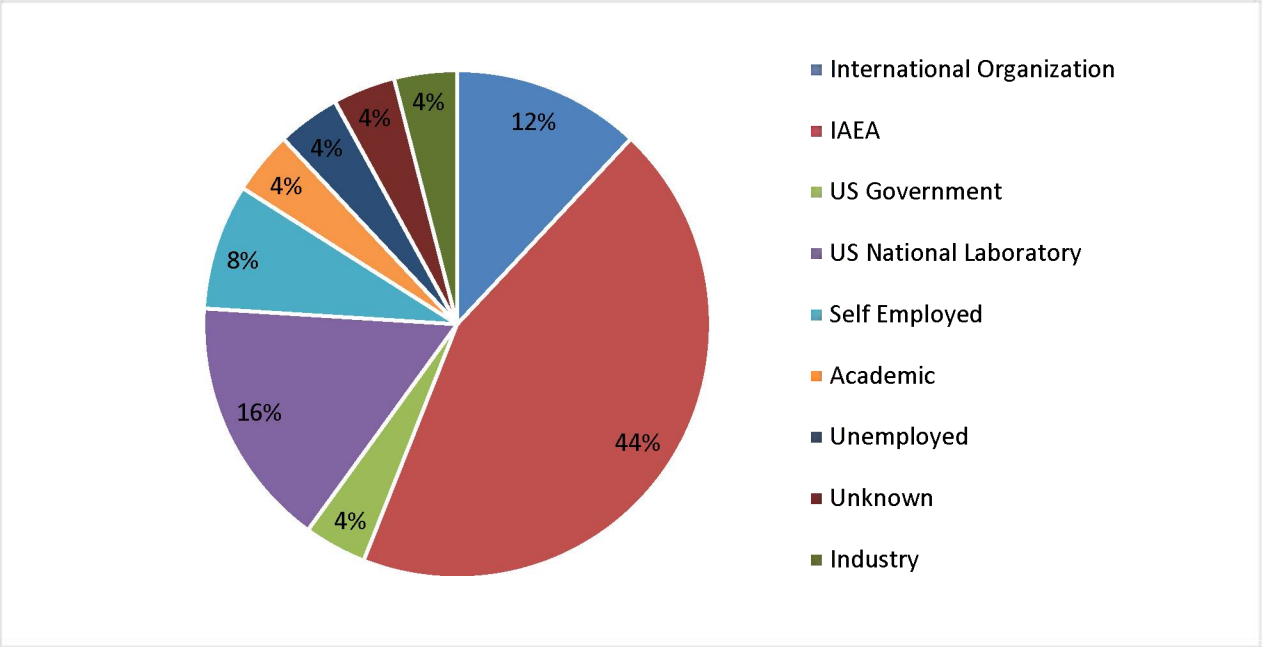

Figure 6: Employer Immediately Following the JPO Assignment

Conclusions:

The United State-IAEA MOU for Junior Professional Officers is excellent vehicle for human capital development for international safeguards. Based on the analysis, the authors draw the following conclusions:

- Most JPOs are recruited from the workplace.
- Graduate degrees are helpful but not essential to landing a JPO position.
- The most common fields of study for successful candidates are nuclear engineering and international studies, which includes international relations, international affairs, and European studies.
- JPO backgrounds are roughly evenly split between science/technology and social science disciplines; however, of those JPOs hired by the IAEA after their JPO assignment, a greater number have backgrounds in science and technology.
- The USSP has sponsored the most JPOs in the area of open source information collection and analysis, but JPO composition in technical support areas has significantly increased in the last several years.
- Following their assignments, JPOs are most likely to work for the IAEA, another international organization, or a U.S. national laboratory.
- The JPO program is an important pathway for introducing highly qualified individuals to the IAEA workforce.

The analysis that was performed was predominantly direct interpretation of the data. Additional analysis could be performed to correlate the various elements to each other.

End Notes:

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[i] P1 and P2 refer to the IAEA's professional grading system. The professional grades have five levels – P1 through P5. P3 requires five years' experience, P4 requires seven years' experience and P5 requires ten years' experience.

[ii] J. Cruz, J. Patterson, and S. Pepper, "Evaluation of the United States Support Program's Internship and Junior Professional Officer Programs," poster presented at the 53rd Annual Meeting of the Institute of Nuclear Materials Management, Orlando, FL, July 2012.

[iii] Pepper, Susan E., Catherine Osiecki, "The Impact of the USSP Safeguards Internship Program," presented at the 47th Annual Meeting of the Institute of Nuclear Materials Management, Nashville, TN, July 2006.